هكذا من الأجيل

FINANCIAL TIMES REVIEW

Interview
**View from the top:**
Charles Wang of Computer Associates
**Page 2**

Focus
**Computers in retailing:**
The revolution
**Pages 3-10**

Directions
**Geographical Information Systems:**
Desktop GIS is on the way
**Pages 11-13**

Software at work
**Logistics and distribution:**
IT delivers the goods
**Page 17**

Information Technology

Wednesday **October 4** 1995

**■ The Big Issue: Network security**

One recent study concludes that the Internet will be safe for general commerce within 18 months thanks to authentication and encryption techniques, reports **Paul Taylor**

# Good design can counter data fraud

Computer networks and internetworking have transformed the personal computer from an isolated machine into a valuable information and communications tool, essential to many "mission critical" corporate applications.

There is, however, a catch. Networks, especially the Internet, are inherently insecure. Concerns about security regularly register top of the list when companies are asked about networks and internetworking.

"The growing incidence of hacking and data fraud emphasise that companies can no longer rely solely on staff-based security systems," says John Hope, Olivetti's networks divisional manager in the UK. "Hacking and fraud are often only detected by automatic security systems which monitor the network 24 hours a day."

No system can, of course, guarantee 100 per cent security, even with this sort of surveillance. Network operators might be able to limit the risks by imposing draconian security measures, but that would be like a shopkeeper nailing the front door closed and then wondering why there are no shoppers.

"To ensure comprehensive security, an organisation must address all hosts, systems, applications and networking devices with a policy that seeks to maximise user convenience and productivity, while at the same time limiting security violations," Cisco, the US-based internetworking specialists, advise in a recent briefing paper.

The goal of good design should be to provide this balance while adding as few restrictions as possible from the users' point of view. The first step should be to define a security policy, taking the following factors into account:

■ Know your assets. Companies should understand what they want to protect and what access is needed. Some parts of an IT infrastructure can be left more open because little cost is involved if they are compromised.

■ Count the cost. Security can delay work and create expensive overheads, as well as tying up significant computing resources and requiring dedicated hardware. Costs should be weighed against potential benefits.

■ *Identify* assumptions. All security systems involve underlying assumptions, so any hidden assumption is a potential security hole.

■ Control secrets. Most security is based on secrets such as passwords and encryption keys. Too often, however, secrets leak out. Security systems should be designed so that only a limited number of secrets need to be kept.

■ Allow for human factors. Many security procedures fail because designers fail to remember that if security measures interfere with essential uses of the system, users will resist and even circumvent them. Educate users about security.

■ Limit the scope of access. Companies should consider partitioning their systems so that if intruders access one part of a system, they will not be able to move around.

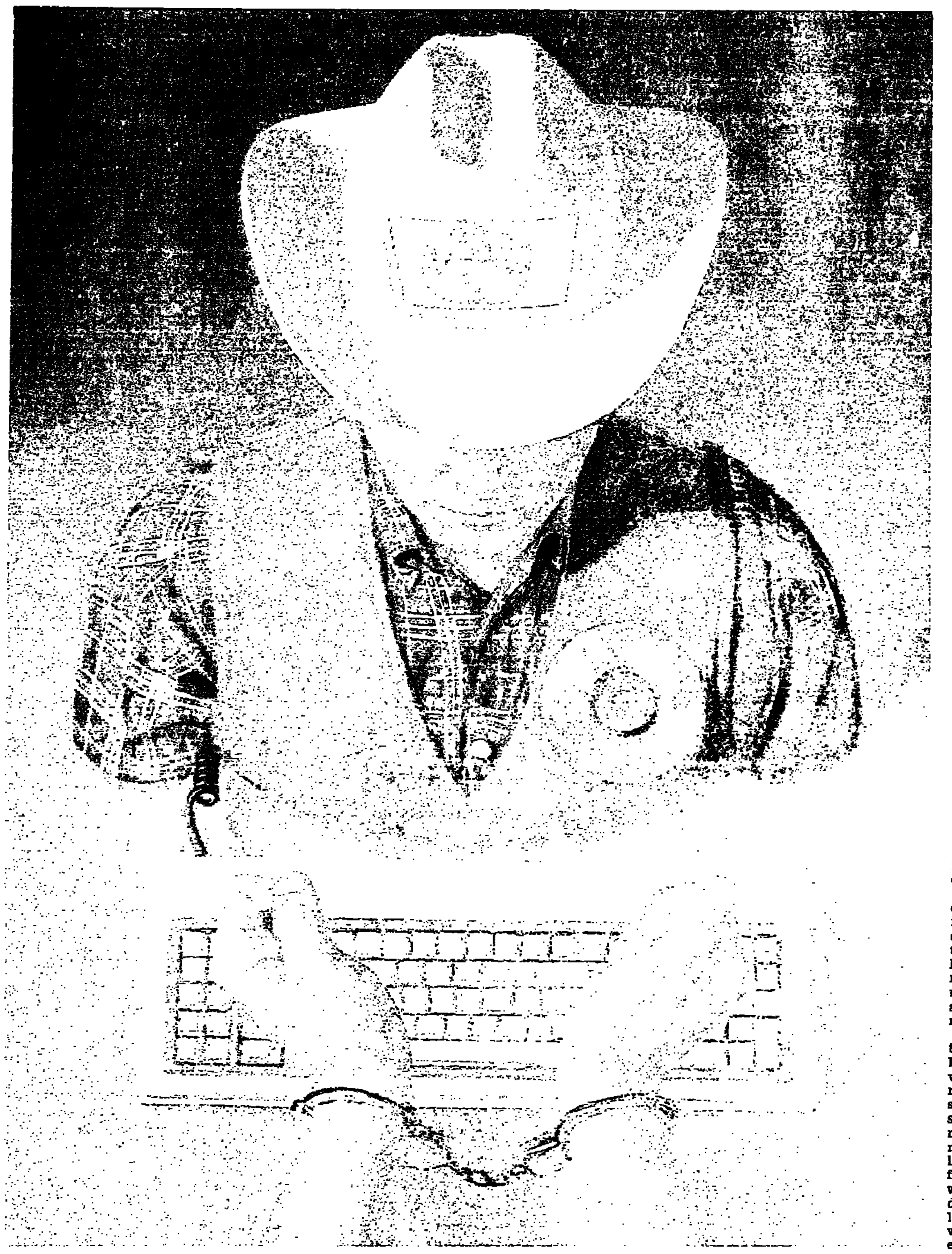
■ Remember physical security. Software security measures can be circumvented if an unauthorised user gets physical access to a computer or network router.

■ Focus on points of attack. An organisation must understand how potential intruders may be able to enter its network. Areas of concern are network connections, dial-up access points, and misconfigured hosts, such as systems with unprotected log-in accounts, illegal modems connected to host computers, and easy-to-break passwords.

When a security policy is in place, standardised precautions can be replicated and automated across an organisation. "Trusting employees with 95 per cent of the information frees resources to secure data that could really harm the company." Forrester Research, the US-based research firm suggests.

For the top-secret 5 per cent of data, the best protection will probably be several security layers rather than a single, supposedly unbreakable, door. Networks handling highly sensitive information such as funds transfer should be secured using a variety of tools, including authentication software which verifies that a user is who they claim to be and which creates an audit trail to a security server, and encryption technology which protects data in transit from "sniffer" software used by hackers to intercept information.

Additional security can be provided by using single-use password generators. This form of software is particularly useful for remote access security, such as client access to bank electronic funds transfer networks.



Network managers can also use audit tools which are designed to discover, identify and report security holes in networks. The most controversial audit tool is probably a programme called Satan (Security Administrator Tool for Analysing Networks) which was made available on the Internet earlier this year by its creators.

For internal data other than top-secret information – the vast bulk of a company's database – simple low-tech measures, such as virus scan software which will offer protection from computer virus programmes transmitted via floppy disks or over the Internet, and automated password management software which requires mandatory password changes at pre-determined intervals, should be standardised and introduced across the organisation.

The interface between internal and external networks, such as the Internet poses another set of problems. At the simplest level, a continuously available Internet connection to an internal network can be obtained via a leased line and a router – a device which acts as a post office, routeing traffic to and from users and which provides unrestricted two-way access.

Some security can be added by implementing filtering, a capability which most routers today incorporate. Filtering routers can be set up so that, in theory, at least, employees have access to data stored on the Internet, but Internet users cannot access internal data. But if the filter fails, or has been misconfigured, security can be breached and external users can have unrestricted access to the internal network.

The single most important security tool for any organisation connected to the Internet is probably the firewall – a software and hardware mechanism which attempts to stop passage of all unauthorised traffic. A more sophisticated firewall prevents any direct link from the Internet to internal systems. This uses a host-based computer or intelligent gateway in place of the filtering router and is usually known as a dual-homed gateway. A further refinement is the screened subnet which places a bastion host between the Internet and the gateway providing enhanced security.

Sophisticated firewall software is now available from many hardware and software vendors and has become vitally important as more and more companies build enterprise-wide networks and tap into the commercial potential of the Internet.

"Many organisations have been carried away by their enthusiasm to exploit the Internet without considering the security implications," says George Fyffe, director of professional services at Protek, a Maidenhead-based specialist security consultancy. "The stereotype of a hacker as an adolescent teenager working from a bedroom is far from the truth. Commercial organisations must never underestimate the ingenuity and expertise of the organised professional."

For the moment, most companies connected to the Internet are focusing on the firewall as a way of conducting safe and secure transactions. A recent report by Forrester, however, concludes that the Internet will be safe for general commerce within 18 months thanks to authentication and encryption techniques.

"Once encryption and authentication are woven into applications, Internet users will have secure private links between business partners, or between retailers and consumers that no cracker can tap," says Paul Callahan, author of the report. He warns that doing business on the Internet will, nevertheless, be not that much different from the physical world. "Banks will require more rigorous standards, but even with application-level encryption and authentication we think most companies should expect to lose $1 per $1,000 of transactions to Internet-based fraud."

At that rate, however, Internet fraud would be below MasterCard's reported rate of $1.411 per $1,000 in 1993 and cellular phone fraud in the US which is running at an annual rate of about $20 per $1,000.

If you need more power on the move – TravelMate is the solution.

Personal Computer World EDITOR'S CHOICE

Offering the computing power of a desktop PC – when you're away from your office or working on the move – the high performance TravelMate notebook, from Texas Instruments may be the only computer you need.

With a choice of 486 processors (including the super-fast 100MHz Intel DX4), a choice of screens – active matrix and dual scan ('best of breed' in the eyes of Personal Computer World) and PCMCIA flexibility, the TI TravelMate 4000M series offers everything you could want in a notebook PC.

And more. Because TravelMate is multimedia ready, giving you the potential to move beyond conventional business applications: to work with moving images and stereo sound, and to run a growing library of CD-ROM based software.

**You've met TravelMate – now meet its maker.**
One of the world's top semi-conductor companies, Texas Instruments' research impacts on almost every aspect of modern life. Indeed, our integrated circuits are the key enabling devices behind many world-class manufacturers' products.

You can be sure that when we came to develop our own range of notebook computers, we brought all our technological expertise to the task.

How successful we have been can be measured by the widespread acclaim TravelMate has received from the computer press.

High performance and ease of use combined with attractive styling and outstanding build quality make TI's TravelMate the portable solution to virtually every business computing need.

For further information on TravelMate notebooks and the address of your nearest Texas Instruments dealer, call **01932 780753** in the UK, or **+49 8161 80 4947** from mainland Europe.

TravelMate 4000M WinDX4/100 Color TFT

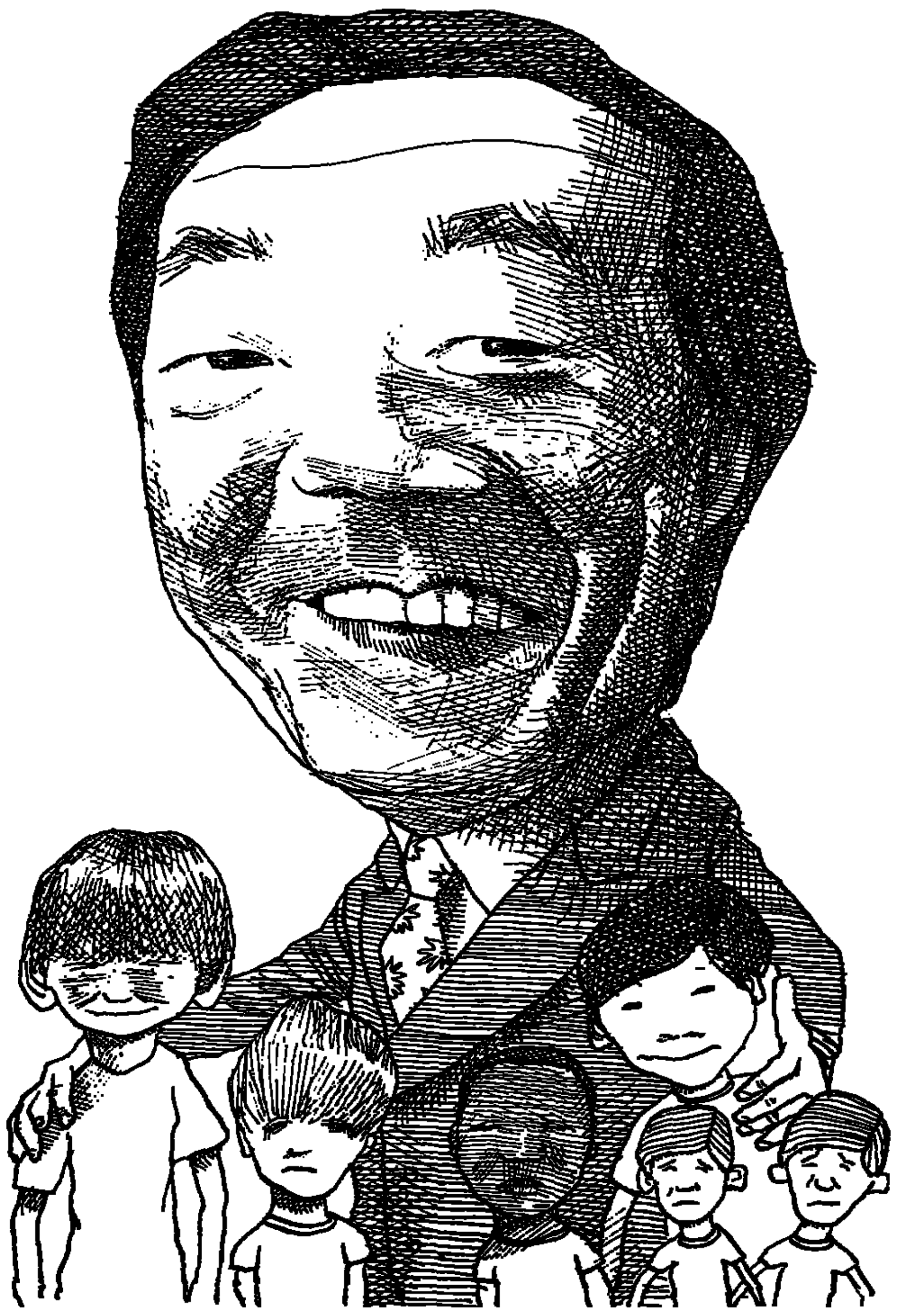
TravelMate 4000M WinDX4/75 Color Dual Scan or TFT

TravelMate 4000M SX2/50 Color Dual Scan or TFT

Portable Docking Station with CD-ROM and sound system for 4000M series

TEXAS INSTRUMENTS

EXTENDING YOUR REACH WITH INNOVATION



■ **View from the Top**

# Permission to make mistakes

## Charles Wang, chairman and CEO of software provider Computer Associates, talks to Claire Gooding

People say that Charles Wang could have been a success in almost any industry. Wang himself says that technology is his first love: he started as a Cobol programmer and is proud of it.

Since 1976 he has headed software provider Computer Associates, and his programme of acquisitions (58 to date) has taken it from its original niche – selling productivity aids to IBM mainframe programmers – to practically every corner of the IT business.

CA is now the world's second-largest independent software house with turnover worldwide of $2.6bn – an increase of 22 per cent over 1994.

It is difficult to find an applications area where there is no product with a CA-prefix: spreadsheets, accounting, manufacturing, IT productivity aids, database, systems software, from PC to mainframe.

Now CA has come out of the IT back room and is making its bid for the boardroom. Wang's book, *TechnoVision*, promises to explain IT to chief executives. He argues that it is their responsibility to understand IT and its role in the organisation. He has even coined a term for the gap between their understanding and what IT actually does: he calls it "the disconnect."

He has tested his beliefs by setting up hands-on workshops for chief executives – with one-to-one tuition from CA aides – to help them conquer technophobia. These "boot camp" events, set up in the US with CEO Institute Inc, are about to get their first European test at Montreux in Switzerland. The pupils listen to him because he speaks as a chief executive who has done pretty well himself.

In the beginning – in 1976 – there was CA-Sort, a cheap quick alternative to IBM's own sort routines, and CA-Earl, a very competent report writer for IBM mainframes, fondly remembered by many a programmer. They were sold by an American-owned but European-based specialist company, Computer Associates. And then along came Charles Wang (pronounced Wong), founder of the US arm of CA, who acquired the European operations, setting CA off on its long path to stardom.

Even when there were only a few operating environments that mattered (and those all belonged to IBM), Wang was among the first to aim at being a "single-source supplier", providing a range of software tools and applications across all possible operating platforms.

Going public in 1981 raised $12m – enough for Wang to make his first significant acquisition, Capex, whose systems products were complementary to CA's own, but in a different IBM environment. This was one of the computer industry's first attempts to create a cross-platform set of offerings, but where others developed or re-wrote from scratch, CA's way was to acquire then integrate.

CA's strategy on its home ground of systems software is clear: be there, on every platform under every operating system. It is a philosophy that has served CA well, and established its systems management tool CA-Unicenter as an industry standard.

Unicenter is proof of CA's ability to innovate. Its latest incarnation, TNG (The Next Generation), uses whizz-bang virtual reality to help systems managers track down faults.

Dozens of takeovers later, Wang claims to know and love every member of his disparate CA family. "They are my children – I must not show preference because they feel I don't love them if I mention one and not another."

Despite this paternal protest, CA's reputation has been that of an acquisitive company, feared as much as welcomed by those who need its injection of cash. The recent $1.7bn takeover of Legent – the biggest CA has ever done – is typical, revealing all the fears inside the company and throughout the industry of unfair competition.

Some people – especially those who are out of the door the moment a CA bid is announced – accuse the company of sucking the life out of products and spitting out the bones, once the user-base is secured. Those who appealed to the Department of Justice to oppose the Legent takeover levelled the familiar charges: monopoly of the market and imminent death of the product range, once acquired.

Wang professes himself hurt by this view: he has often been the white knight, the guiding hand and rescuer of companies that have lost their direction or suffered from short-sighted management. "In 20 years," he says, "only eight companies have I pursued in takeover deals: the rest have come to me."

Indeed it is not difficult to find CA people who have been taken over, and thereafter stayed for years, such as Mark Sokol, vice-president of product strategy, who came to CA with Realia Cobol. "The first thing Charles said to me was 'Let's talk about the future of the product,'" he recalls.

Wang's co-founder of CA, Russ Artz, a colleague who dates back to Wang's programming days, still steers CA's research and development programme. It is true that along the way CA has swallowed companies more venerable than itself, such as ADR, the systems house credited with founding the software industry in 1969. It has occasionally snapped up two meals at a time, buying a company that had oly just acquired another, such as Pansophic-Realia, ASK-Ingres and Cullinet-SKK.

Wang admits to choosing who will stay and who will go very quickly. But "permission to make mistakes" is one of his personal philosophies. "Why fire someone if they have just cost you money? You might as well keep them on and benefit from their expensive new wisdom."

CA's latest subject for courtship, the systems management and professional services company Legent, had recently bought Goal Systems, which itself had gathered a few other IBM systems products. But, says Wang, Legent had failed to integrate, and integration is his great strength.

> Wang has never bothered to court the press, although the signs are that things may be changing

CA's programme of having two databases, (Datacom, Ingres), and acquiring the products (and user bases) of competing products, has often puzzled the industry. But even those who have become users grudgingly admit that CA has kept its promises and breathed new life into products that were flagging by pursuing maintenance and development.

Still in the portfolio are old originals CA-Dynam Family for storage management and CA-Scheduler for workload management. Ignore the mainframe at your peril, warns Wang: the growth of so-called "legacy" systems stands at 11 per cent a year, with Unicenter and Ingres in particular showing explosive growth.

That doesn't mean he is looking backwards. He talks enthusiastically about the integration of phone mail, voice, fax, mobile and Internet communications. CA is partnering CableVision of Long Island in a TV-modem trial in New York.

Wang has never bothered to court the press, although the signs are that things may be changing. The press, he says, is guilty of fuelling expectations, promoting irresponsible "market watchers," and hyping products that pour money down the IT drain.

Good relations with the users are another matter. He obviously enjoyed gathering 10,000 users at CA World in New Orleans this July, in a magnificent display of logistics and largesse which brought together people from 13 very different user groups.

He took them by surprise twice: once with a plea to sign a petition to the Department of Justice in support of the Legent takeover, next with a passionate diatribe against lawyers meddling in the software industry (a surprise to those who remember how well his lawyer brother Tony, now retired, served CA in its formative years). Those who take the trouble to read *TechnoVision* cover to cover will be struck by a different Wang from the public image of wheeler-dealer: the one with a mother who enjoys exploring her PC, and one who believes passionately in the value of educating the coming generation (he has a young daughter).

Wang is a practised showman on stage, joking with former US President George Bush. "I haven't done badly, for an immigrant boy from Brooklyn," he says.

But reserve – for example about his close family and his forthcoming visit to China – seems more natural to him. The visit is his first since his family was expelled in 1949 during the Communist revolution. Charles was born in Shanghai in 1944, son of a Supreme Court judge, the second of three sons.

Perhaps this varied background – surviving exile and working in his parents' grocery shop – accounts for a view more catholic than the other great software emperor, Bill Gates of Microsoft. He respects Gates, he says, but CA's strength is in a broad-ranging view of the world in which the PC takes its place among other technologies.

POWERFUL, LOW COST HANDHELDS FOR COMPANIES GOING PLACES
PSION
workabout

**Psion Workabout. The low cost, high performance computer range that integrates mobile workforces with computer systems.**

Psion Workabout is revolutionising the way computers work throughout the world, putting 16-bit, multi-tasking computer power in the hands of mobile workers for an unbelievably low cost.

Psion Workabout has provision for up to 16Mbytes of data storage, a graphic windowing operating environment, plug-in barcode readers and scanners for auto-id, a docking station for automated data transfer to office computer systems, and a high-performance specification that more expensive machines would be proud to boast.

For an even wider range of superior solutions, new models shortly to be available include an integral wand and integral scanner.

Workabout supports rapid application development through a built-in programming language and a range of standard language development tools. Alternatively, the Psion Software Development and Systems Integration team can offer a total solution.

Born from the experience of supplying over 1.5 million handheld computers, Psion Workabout sets new standards, bringing robust, reliable computing power to business, commerce and industry, from as little as £270.

For more information call 0171-258 7366 (UK) and +44 171 258 7370 (overseas).

## FT IT Information Technology

**CONTRIBUTORS**

***Production Editor:*** *Philip Sanders*

**Writers in this issue** (volume one, number seven) include:
George Black, Neil Buckley, Peter Cochrane, Michael Dempsey, Tom Foremski, Claire Gooding, Peter Ireland, John Kavanagh, Gary Mead, Philip Manchester, Nuala Moran, Penelope Ody, Joia Shillingford, Paul Taylor and Geof Wheelwright

**Illustrations:**
David Cutter (front cover)
and John Springs

■ Topics in the next issue of the FT-IT Review on Wednesday November 1 will include:

**Cover story/The Big Issue:** Update on the paperless office
**Focus:** Technology in the office
**Software at work:** Sales and marketing systems
**Directions:** Document image processing

### Topics planned for future issues include:

**December 1995**

**Focus:** IT in the home
**Software:** Accounting packages
**Directions:** Intelligent systems

**January 1996**

An A-Z of the Internet

**February 1996**

**Focus:** IT in government
**Software:** Enterprise Intelligence
**Directions:** Digital Printing

**March 1996**

**Focus:** Information and Communications Technology

■ Editorial background for consideration may be sent in writing one month before publication to:

**The Production Editor,**
**FT Review of Information Technology,**
**Financial Times,**
**One Southwark Bridge,**
***London, SE1 9HL***
Fax: (+44) 0171 873 3197

■ For copies of future editorial synopses for the FT-IT Review, please call:

**In London:**
Simon Larter or Dolly Corcoran,
FT Advertising Dept., on
(+44) 0171 873 4129
or fax: (+44) 0171 873 3662

**In the US:**
New York: Gavin Bishop,
tel. (212) 745 1342
San Francisco: Nick Mayle,
tel. (415) 637 9775

هكذا من الأصل

هكذا من الأصل

HENRY BUTCHER
International Property
& Plant Consultants
0171 405 8411

FINANCIAL TIMES
COMPANIES & MARKETS
©THE FINANCIAL TIMES LIMITED 1995
Wednesday October 4 1995

TDSi
Access to almost anything. Or not.
SPECIALIST CONTROL SYSTEMS FOR ACCESS, SECURITY AND CASHLESS PAYMENT
Tel: 01202 666222 Fax: 01202 679730

## IN BRIEF

# Chrysler in talks on joint ventures

Chrysler is discussing a number of joint ventures with foreign automotive groups as part of a big push into international markets, Mr Robert Eaton, the US company's chairman, said. He refused to name the foreign companies Chrysler was talking to, but said Volvo, the Swedish group, was not among them. Page 19

**BCI to extend S American operations**
Banca Commerciale Italiana, the Italian banking group, is to extend its influence in South America by taking a majority stake in Banco de Lima, the Peruvian bank founded by Crédit Lyonnais of France. Page 18

**Russian 'Wild West' beckons for investors**
"This is the Wild West," says Mr Steven Bates, a director of Fleming Investment Management, describing the firm's Russia fund, one of a handful of vehicles allowing investment in what is considered one of the world's most dangerous, but potentially lucrative marketplaces. Page 18

**Nickel bolsters Diamond Fields**
Diamond Fields Resources was just one of the many junior exploration outfits that dot Vancouver's financial landscape until the Canadian group discovered a vast nickel, copper and cobalt deposit last year at Voisey Bay, Labrador. Page 20

**Toyota head attacks government policies**
Mr Hiroshi Okuda, the new president of Toyota, accused the Japanese government of prolonging the recession and forecast rapid consolidation among Japan's nine leading car groups. Page 21

**H&C plans restructuring and job cuts**
Harrisons & Crosfield, the UK construction conglomerate, joined a number of companies complaining about difficult conditions in the sector when it announced a £3.5m ($5.5m) restructuring and plans to cut 500 of its 4,300 staff. Page 22

**Canary Wharf price 'too high'**
Property investors who failed to acquire Canary Wharf, the large office complex in London's docklands, said the £800m ($1.24bn) price agreed by the successful consortium, led by Canary Wharf's original developer, Mr Paul Reichmann, was too high. Page 22

**Aran hints at strategic alliance**
Aran Energy, the Irish oil exploration and production company, hinted it might enter a strategic alliance with a leading oil group if it successfully defended itself against a £161m ($255m) hostile takeover by Atlantic Richfield Corp (Arco), the US petroleum group. Page 22

**Granada chairman sets retirement date**
Mr Alex Bernstein, chairman for the past 16 years of Granada, the UK media and leisure company, said he would retire on March 29 next year – his 60th birthday. Page 22

**Latin Americans angle for end to tuna ban**
Six Latin American governments are meeting in Panama City this week to adopt a new code of conduct for their tuna fishing fleets that would dramatically reduce the number of dolphins killed in their nets and, they hope, persuade the US to lift a ban on tuna imports from their countries. Page 23

## Companies in this issue

| | | | |
|---|---|---|---|
| ADC Telecoms | 19 | Granada | 22 |
| AT&T | 9 | Harrisons & Crsfield | 22 |
| Air France | 17 | Hawker Siddley Cda | 19 |
| Air Philipines | 8 | Hille and Muller | 22 |
| Alliance Resources | 22 | Hitachi | 19 |
| Aran Energy | 22 | Huhtamaki | 18 |
| Atlantic Richfield | 22 | IBM | 9 |
| BCI | 18 | Istituto San Paolo | 18 |
| BP | 6 | Japan National Oil | 6 |
| Banco Ambrosiano | 18 | Lockheed Martin | 19 |
| Banco de Lima | 18 | MCI | 9 |
| Birmingham Steel | 19 | Manchester United | 22, 17 |
| British Gas | 6 | Microsoft | 14 |
| British Telecom | 9 | Ming Pao Enterprises | 21 |
| Carrefour | 18 | Motorola | 19 |
| Christian Dior | 18 | Nintendo | 14 |
| Chrysler | 19 | Norweb | 17 |
| Cognos | 19 | Owens-Corning | 19 |
| Crédit Lyonnais | 18 | Pilkington | 22 |
| Daewoo | 16 | Rimbunan Hijau | 21 |
| Daimler-Benz | 18 | Robert Fleming | 18 |
| Daiwa | 1 | Sega | 14 |
| Deutsche Post | 17 | Shell | 6 |
| Deutsche Postbank | 17 | Sony | 14 |
| Deutsche Telekom | 9 | Telefonica | 1 |
| Euromoney | 17 | Texaco | 19 |
| France Télécom | 9 | Texas Energy | 17 |
| GE Capital | 19 | Toyota | 21 |
| Gemina | 18 | USAir | 1 |
| General Magic | 9 | Union Texas | 6 |
| Georgetown Inds | 19 | Wagon Industrial | 22 |
| | | YPF | 6 |

## Market Statistics

| | | | |
|---|---|---|---|
| ♣Annual reports service | 26-27 | FT-SE Actuaries indices | 30 |
| Benchmark Govt bonds | 24 | Foreign exchange | 25 |
| Bond futures and options | 24 | Gilts prices | 24 |
| Bond prices and yields | 24 | London share service | 26-27 |
| Commodities prices | 23 | Managed funds service | 28-29 |
| Dividends announced, UK | 22 | Money markets | 25 |
| EMS currency rates | 25 | New intl bond issues | 24 |
| Eurobond prices | 24 | New York share service | 32-33 |
| Fixed interest indices | 24 | Recent issues, UK | 30 |
| FT/S&P-A World indices | 34 | Short-term int rates | 25 |
| FT Gold Mines index | 30 | US interest rates | 24 |
| FT/ISMA intl bond svc | 24 | World Stock Markets | 31 |

## Chief price changes yesterday

| | | | |
|---|---|---|---|
| **NEW YORK ($)** | | | |
| **Rises** | | | |
| GM | 84¾ | + | 1 |
| USAir | 13⅞ | + | 1⅝ |
| **Falls** | | | |
| Alum Co Amer | 51⅛ | – | 1¼ |
| Amer Online | 64¼ | – | 1½ |
| Lam Research | 55½ | – | 2⅝ |
| UAL | 167⅞ | – | 4½ |
| **LONDON (Pence)** | | | |
| **Rises** | | | |
| BOC Group | 819 | + | 19 |
| Br Airways | 472 | + | 20 |
| Compass Grp | 441 | + | 17 |
| M&G Group | 1204 | + | 54 |
| **Falls** | | | |
| Euromoney Publ | 1083 | – | 312 |
| Superscape VR | 407 | – | 29 |
| **TORONTO (C$)** | | | |
| **Rises** | | | |
| ATS Autom | 18¼ | + | 1¼ |
| Imax Corp | 24½ | + | 2½ |
| Softkey | 54½ | + | 4½ |
| **Falls** | | | |
| Alberta Nat Gas | 23 | – | ¼ |
| Guardian Cap | 11⅞ | – | ⅝ |
| Tee Comm Elec | 16⅝ | – | 1⅝ |
| **PARIS (FFr)** | | | |
| **Rises** | | | |
| Alcatel | 438.2 | + | 16.6 |
| BIC | 457 | + | 22.5 |
| Canal Plus | 849 | + | 17 |
| Essilor Int | 858 | + | 16 |
| Legrand | 785 | + | 15 |
| **Falls** | | | |
| Elf Aq Certs | 296.5 | – | 15.4 |
| **TOKYO (Yen)** | | | |
| **Rises** | | | |
| Daikyo Inc | 735 | + | 54 |
| Fuji F & M | 530 | + | 39 |
| Lng Trm Crdt | 869 | + | 43 |
| Takara Shuzo | 794 | + | 34 |
| Yuasa | 535 | + | 25 |
| **Falls** | | | |
| Mitsui Plstcs | 380 | – | 15 |
| **HONG KONG (HK$)** | | | |
| **Rises** | | | |
| China Foods | 2.4 | + | 0.22 |
| First Pacific | 8.8 | + | 0.25 |
| Sino Land | 5.4 | + | 0.25 |
| **Falls** | | | |
| Lap Heng Co | 9.7 | – | 1.5 |
| Laws Intl | 0.87 | – | 0.07 |
| Luoyang Glass | 3.0 | – | 0.22 |
| **BANGKOK (Baht)** | | | |
| **Rises** | | | |
| Goodyear | 250.0 | + | 20.0 |
| Prakit & FCB | 95.0 | + | 8.5 |
| Tipco | 37.75 | + | 3.25 |
| **Falls** | | | |
| Inter F East | 32.0 | – | 3.0 |
| Silica Inv | 72.0 | – | 7.0 |
| Sunwood Inds | 34.25 | – | 3.0 |

Frankfurt closed. New York and Toronto prices at 12.30pm.

### Carrier to merge its European activities with Air Inter, its domestic operation

# Air France plans new Europe airline

By John Ridding in Paris

Mr Christian Blanc, chairman of Air France, is tomorrow expected to present plans for a new European carrier within the state-owned airline group, aimed at responding to the liberalisation of European air travel in 1997.

The plan comprises a two-step process in which the European activities of Air France will be combined with Air Inter, the domestic carrier which is part of the Air France group. Air Inter, which will receive a new name, will form the basis of the new airline.

After intensified co-operation next year, a merger of the two businesses is scheduled for 1997. The airline is to form a large short- and medium-haul carrier with about 120 aircraft. This will provide a stronger route network better able to compete in the liberalised EU market.

The move is an important step in the restructuring of the Air France group, which is in the midst of an ambitious rescue programme prompted by losses of more than FFr10bn ($2bn) since 1993. It coincides with Mr Blanc's attempt to reform the working practices and recruitment terms of cabin staff.

The two areas of reform, and the airline's ability to overcome opposition from trade unions, are regarded as a vital test of Mr Blanc's strategy. He aims to break even at Air France by 1997, through a three-year recovery plan. The plan was launched last year following a bitter strike in the autumn of 1993 which forced the resignation of Mr Bernard Attali, the previous chairman.

The relative calm in labour relations over the past 18 months has been disrupted by seven strikes called by the airline's cabin staff. Last month, they struck twice in protest at Mr Blanc's latest proposals to cut costs and increase efficiency. These include reduced pay for new recruits and the possibility of transfer to other jobs within Air France after 15 years of employment.

A report by a committee of wise men, appointed by Mr Blanc and disclosed yesterday, supported the airline's claim that unit costs of Air France cabin staff are more than 30 per cent above those at Lufthansa, its German rival.

The report was accepted as the basis of discussions at a meeting between the Air France chief and the five unions which represent cabin staff. The discussions were described as constructive, and a further session has been scheduled for Friday.

For many observers, the reforms at Air Inter represent a more important challenge. The introduction of competition on some of its most profitable routes, such as Paris-Toulouse, and a series of strikes earlier this year, have contributed to a sharp deterioration in results at the domestic airline. Analysts predict a loss of about FFr500m this year, compared with a profit of FFr20m in 1994.

# Postbank talks to 'white knights' to fend off hostile bid

By our foreign staff

Deutsche Postbank, the offshoot of the German postal service facing a hostile takeover bid from its former parent, is in discussions with friendly "white knight" bidders on an alternative deal.

Postbank is seeking to fend off a DM3.08bn ($2.1bn) offer for 75 per cent of its shares from a consortium of Deutsche Post, the postal service, Deutsche Bank, Germany's largest bank, and Swiss Re, the reinsurance company.

It is understood to have engaged in talks with institutions including BHW and Wustenrot, two German savings and home loan groups, Commerzbank and Hypobank of Germany and Union Bank of Switzerland.

Postbank's alternative, which involves four institutions taking small stakes in the bank, will be presented to its supervisory board on Saturday.

Post's bid and Postbank's defence is ranging Germany's leading corporations against each other in the country's largest ever takeover battle. Both the main bidder and the target are state-owned and the German government will determine the outcome.

Postbank's discussions with potential partners began earlier this year after the state-owned giro bank embarked on privatisation, appointing as adviser Salomon Brothers, later replaced by Lehman Brothers. It planned to sell small stakes to several strategic partners.

Postbank's management, taken by surprise at the weekend by the Post consortium bid, briefly considered a defensive merger with a large commercial bank.

Since then the German government has adopted a broadly neutral stance with the office of Mr Helmut Kohl, the German chancellor, saying the government had not taken any decision. Although Mr Wolfgang Bötsch, the post minister, said yesterday that he was sympathetic to the Post bid, Postbank's management is understood to believe political opinion is turning in its favour.

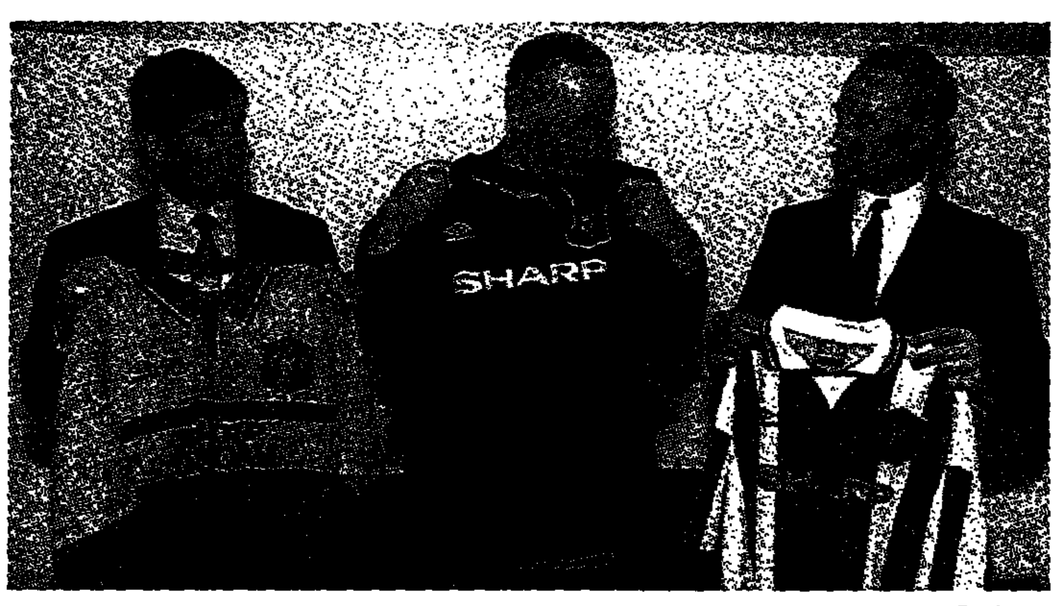
Postbank has therefore ruled out a defensive merger and will persist with plans to sell off 40 per cent to four buyers – a bank involved in fund management, a home loans provider, or bausparkasse, a life insurer and a non-life insurer.

BHW and Wustenrot are the only bausparkasse without strong links with banks and are therefore candidates to take a 10 per cent stake. The field of insurance companies interested in a stake is broad.

The presence in the Post bid of Swiss Re, makes the involvement of UBS, a fellow member of the Swiss financial establishment, less likely although the Swiss bank had expressed interest. Postbank is in talks with another bank on the sale of a 10 per cent stake.

Postbank, Post and Deutsche Telekom emerged from the division last year of the Bundespost organisation into three units in preparation for privatisation. The sale of Telekom, planned for 1996, is likely to be the largest international equity offering.

# UK soccer club doubles its score



Tony Andrews

United we stand: Martin Edwards (left), chief executive of Manchester United, the English soccer club, yesterday celebrated a doubling of pre-tax profits with club chairman Roland Smith and Robin Launders, finance director. He also defended the club's three strips, which it changes every two years and which have underpinned a sharp increase in merchandise sales. Story, Page 22

# Euromoney shares fall on warning

By Christopher Price in London

Shares in Euromoney tumbled 22 per cent yesterday after the UK information group warned that annual pre-tax profits would fall by a quarter.

Tough trading conditions in the conference and seminar market were blamed for the slide from £24m ($37m). Analysts had been expecting pre-tax profits of about £27m for the year to September 30. Yesterday they cut this to £18m.

Euromoney, in which Daily Mail & General Trust holds a 70 per cent stake, saw its shares fall 312p to 1083p – valuing the group at £240m.

The AIC seminar subsidiary, based in Australia, suffered a decline in the average number of delegates. This was blamed on difficulties in the world's financial markets, as well as the group's expansion into more competitive markets.

New offices had been opened in Frankfurt, Paris and Amsterdam and the performance had been "disappointing", said Mr Richard Ensor, Euromoney's managing director. The Amsterdam office has since been closed, among other measures taken by the group to arrest the decline.

The Mexican peso crisis had hit revenues from emerging markets, the Barings crash had undermined derivatives trading, and consolidation in the banking industry impaired demand. These and other developments had restricted the number of people attending training courses, seminars and exhibitions, as well as magazine advertising revenues.

About 25 per cent of group revenues are earned in September, when a special Euromoney edition is produced. Mr Ensor said that early indications were that the month had produced "strong" trading. "Hopefully this is a sign that business is recovering overall and moving in the right direction."

The board intends to hold the final dividend at 29.5p a share, making a total of 43.5p for the year, compared with 42.5p. The results are due on November 28.

# Texas Energy lifts bid for UK utility

By David Wighton in London

The fight for control of Norweb seems poised for another round after Texas Energy Partners yesterday increased its offer for the Manchester-based electricity company to £10.85p a share, just 10p above the hostile cash bid by North West Water.

North West, which said it would "make an appropriate response in due course", is expected to lift its offer a second time.

Mr Brian Staples, North West's chief executive, said its acquisition of Norweb had stronger logic than for Texas Energy Partners, a joint venture between Houston Industries and Central and South West, US utilities.

"Shareholders in Houston Industries and CSW should surely be asking why their boards are pursuing this offer in competition with us," said Mr Staples. But shares in Houston rose after the increased offer and both partners appear ready for a long battle.

Mr Tom Shockley, co-chairman of Texas Energy, said: "We think this is going to be a process which is going to unfold over the next weeks and months. We know what Norweb's value is to us and we will just have to evaluate each step at a time."

Texas Energy has increased its original offer, which was recommended by Norweb, by 35p to £10.85p, comprising 885p in cash and a special dividend of 200p.

Although above North West's cash alternative, the new bid is 20p below North West's cash and shares offer of £11.05p. For non-tax paying shareholders the Texas offer is worth 5p more, including tax credit. Norweb's shares rose 7p to £10.87 while North West's slipped 1p to 591p.

Norweb said in view of their proximity, it would not be recommending either offer for the time being. "The board expects to make a recommendation in due course in the light, inter alia, of North West Water's share price performance and the decisions of the various regulatory authorities."

While Texas Energy's offer is not expected to meet any regulatory problems, North West's bid involves complex negotiations with regulators for both industries and could face referral to the Monopolies and Mergers Commission. But Texas Energy felt it could not afford to wait and risk allowing North West to buy more shares in the market.

Lex, Page 16

## Barry Riley

# The trouble for Harry in modelling the All-Share

Is it easier to win a Nobel Prize than to persuade a portfolio of ill-disciplined British equities to outperform consistently? Mr Harry Markowitz is putting himself to the test.

Last week, the living legend of modern portfolio theory launched a UK portfolio model, devised by the New Jersey-based Daiwa Portfolio Research Department, a quant team which he directs. The UK product will be marketed by Commercial Union Investment Management under the name Cudos; CU has been offering similar active quant models for Japan and the US, and DPRD runs similar portfolios worth about $1.8bn, largely in Japanese equities.

Adapting the model for the London market has apparently been troublesome, and taken two years to develop. Part of the problem has been the absence of a long run of clean data to feed into the computers, undistorted, for example, by survivor bias.

In the UK, the stock selection model focuses upon four factors for each security: the ratios of earnings to price, cash flow to price, sales to price and book value to price, and adds a measure of momentum. The weightings are set by multiple regression analysis. The result is a list of stocks ranked in order of expected return.

The portfolio does not simply consist of the top stocks. There is a second stage, of portfolio optimisation, which analyses the risk of underperforming the client's benchmark (normally, in the UK, the All-Share Index). The client can then select the preferred point along the efficient frontier, a curve which marks the highest return obtainable for a given level of risk.

It sounds impressive, spiced with phrases such as latent root regression and mean semi variance optimisation, but beating the stock market can never be just a matter of pushing buttons. The market is a moving target. Crucially, there has to be a heroic assumption that historical data will be relevant to what happens in future.

There are two levels to this. Many such models depend on so-called data mining, that is, juggling with historical statistics until, purely by chance, a fit is found. Mr Harry Markowitz insists he tests for statistical significance and so there is something systematic about the relationships which are incorporated into the models. But there is still the question of whether the future will be like the past. That is why a longer run of UK data would have been desirable, to give assurance of robustness in difficult conditions.

> Adapting the model for London has apparently been troublesome

Indeed, it seems to have been difficult to make the model work at all impressively in the UK market. The best outperformance that has been obtained in the backtesting has been about 300 basis points annually. Compare this with the Japanese market, where the Daiwa team first launched a product about five years ago. The theoretical potential annual gain against the Tokyo indices is about 800 basis points. That is one measure of the relative inefficiency of the Japanese stock market, where prices are poorly related to fundamental value.

So much for theory. In practice, the Markowitz system has outperformed the Tokyo market by about 230 basis points annually, on average, over the three years to June 30, but the performance can be erratic, and has owed a great deal to a brilliant first half of 1994. In the past year, the model has slightly underperformed.

As for the UK and the US, both markets have been beaten by about 1 per cent during the January-August period this year, which is perhaps not bad when conditions have been against value-based managers, but these are early days.

The important thing to remember is that this is active, not passive, quantitative management. The models are not static. What happens if the performance is bad for several quarters in a row? Judgment will still need to be exercised.

Perhaps, like any active managers, the Markowitz team will occasionally need to take a leap into the dark – except that they describe this as "intensive and continuous research to ensure that the models continue to function at their most effective".

Mr Harry Markowitz points out that just 200 basis points of excess return would rank the Cudos model among the best UK active managers. But he admits: "It's not as juicy as Japan."

This announcement appears as a matter of record only.

Grolsch

GROLSCH N.V.

has successfully acquired a 12.75% indirect participation in

Elbrewery Company Ltd. Sp. z o.o.
(Incorporated under the laws of the Republic of Poland)

and

Hevelius Brewing Company Ltd. Sp. z o.o.
(Incorporated under the laws of the Republic of Poland)

The undersigned acted as financial advisor to Grolsch N.V.

ABN AMRO Hoare Govett

ABN·AMRO
HOARE GOVETT

ABN AMRO Hoare Govett is the brand name for the investment banking activities of ABN AMRO Bank.

May 1995

# BCI to take control of Banco de Lima

**By Andrew Hill in Milan**

Banca Commerciale Italiana (BCI), the Italian banking group, is to extend its influence in Latin America by taking a majority stake in Banco de Lima, the Peruvian bank founded by Crédit Lyonnais of France.

BCI said yesterday that Banque Sudameris, BCI's Paris-based subsidiary, had agreed to buy Crédit Lyonnais's direct and indirect stakes in the Peruvian bank. With the 28 per cent stake already bought from minority shareholders, Sudameris will control 68 per cent of Banco de Lima once the deal is formalised on October 15. No price was put on the purchase of Crèdit Lyonnais's 40 per cent.

The purchase will further strengthen the Latin American network built up by Sudameris since 1910, when it first invested in the region. Sudameris was founded by BCI and other European partners but has been wholly owned by the Italian bank since last year. It claims to be the biggest European bank in Latin America, present in almost every country, with 257 branches.

The acquisition of a majority stake in Banco de Lima will add a further 37 branches in Peru, 30 in Lima itself. In the first half of 1995, Banco de Lima recorded a pre-tax profit of $4.3m, compared with Sudameris's first-half profit of $33m, after country-risk provisions of $15m.

Net consolidated profit at BCI rose to L239bn ($148m) in the first half of 1995, against L178bn in the first half of last year. Sudameris, consolidated for the first time, accounted for L11,900bn of the group's total assets of L153,000bn.

Separately, Italian news agencies reported that the main shareholders of Banco Ambrosiano Veneto, the subject last year of an unsuccessful takeover bid by BCI, were ready to buy the 19 per cent stake in the bank being sold by Crediop, a subsidiary of Istituto San Paolo di Torino, Italy's biggest bank.

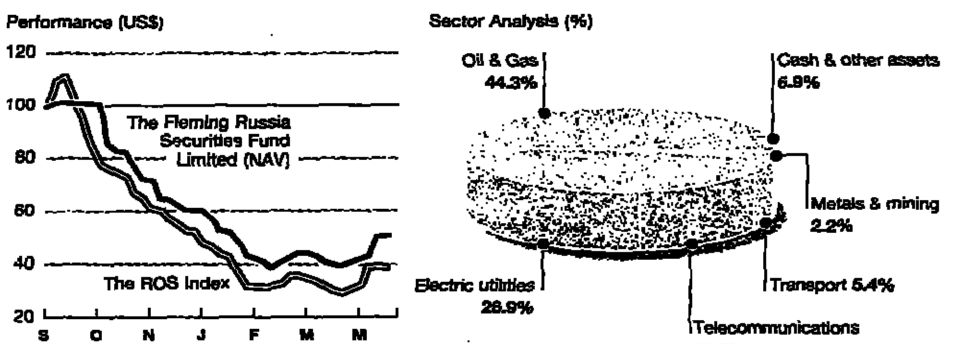
Mr Carlo Salvatori, Ambroveneto's chief executive, told Ansa, the Italian news agency, that "on this issue, there was already an agreement" that the members of the bank's shareholder pact would buy the San Paolo stake. He also dismissed rumours that Cariplo, the Milan savings bank, was planning to join the shareholder syndicate, which is made up of Crédit Agricole of France, with 20 per cent, Alleanza, the insurance company, with 13 per cent, and two local banks with 18 per cent.

Ambroveneto was the subject of a short-lived takeover approach from BCI a year ago, but the main shareholders rallied round the bank, buying up shares offered for sale by outgoing members of the pact. In July a new seven-year pact was formed which excluded San Paolo. The Turin bank's stake in Ambroveneto would be worth L400bn at current prices.

# Risk rules in land without share certificates

## Investment in Russia offers danger and enormous profit potential, says **Norma Cohen**

**Fleming Russia Securities Limited**



Source: Bloomberg, Flemings

Fleming Investment Management's Russia fund is described by Mr Steven Bates, a fund director, as "the Wild West". While there may be a trace of irony in his characterising Eastern Europe in precisely those terms, professional investors in Russia say there are clear parallels.

Fleming has raised a further $21m for its closed-end Fleming Russia Securities Fund, one of only a handful of vehicles allowing investment in what is generally acknowledged to be the world's most dangerous, but potentially also very lucrative, marketplace.

Mr Bates calls the explosion in western investment in Russia "frontier capitalism", noting that it is helping to fuel the boom. "Just count the cranes. There are more of them above Moscow than London," he says.

Investing in Russia, it seems, is not for the faint-hearted. Mr Bates recalled that when the Fleming Russia fund wanted to make its first investment in Siberia-based Surgutneftegas, the world's fifth-largest oil producer when measured by reserves and output, it was stumped. It had to charter an aeroplane just to visit the company. Surgut wasn't on anyone's flight route. Now, things have improved and it is possible to get there in three different flights on a domestic airline.

Getting a physically close look at the Russian companies you invest in is especially important, he says. While the Russian telecoms network is one of the world's largest, there is a nasty habit in Russia of failure to pay phone bills. Moreover, there have historically been no phone directories. This means people don't use their phones much because they do not know each other's numbers, Mr Bates explains.

However, even with stumbling blocks such as these, shares in Russian companies are now for sale at price/earnings multiples so low that staggering profits can be made, even with all the risks. Oil companies, for instance, which in Russia are valued on the basis of proven reserves, are selling for between 10 cents and 30 cents a barrel, compared with their western counterparts selling at between $5 and $7 a barrel.

Such differences, says Ms Nancy Curtin, head of the emerging European group at Baring Asset Management, make investment in Russia worth the risks. Barings has several funds which invest in Russia, although only Fleming and the newly-launched Templeton Russia Fund, traded on the New York Stock Exchange, invest exclusively in securities.

But even once investment decisions are made, carrying them out is just as fraught with danger. "It is the market infrastructure which presents the greatest risk," Ms Curtin says.

There is no such thing as a stock exchange, let alone an existing body of securities law. Until recently, the only way to know the price of a share was to ring up each one of a group of local brokers and ask how much they would sell it for. While Reuters screens now display prices for Russian "blue chips" – the top 12 Russian companies – other share prices are still available only on the phone circuit.

In Russia, there is no such thing as a share certificate; ownership is noted on a company register and there has been at least one well-publicised instance of ownership being eradicated by little more than correction fluid. Moreover, until very recently, the only way to determine ownership was to inspect the share register on a company's premises, and these could be in Siberia.

Some corporate directors are fond of issuing new shares to raise additional capital, overriding the objections of investors at annual general meetings. In one incident, directors of Komineft, a Siberia-based oil company, approved a significant increase in new shares at a May 1994 annual general meeting. When the shares were issued the following November, shareholders were staggered to learn their holdings had been significantly diluted.

"There was no announcement to the stock exchange because of course, there is no stock exchange," Mr Bates explains.

Meanwhile, even for canny fund managers who can pick which shares in Russian companies will outperform, macroeconomic and political risks loom large. After launching the first tranche of the Fleming Russia Securities Fund last September with a Net Asset Value of 100p, investors watched it plummet to a low of about 30p earlier this year before recovering sharply.

However, by all accounts, investment in Russia has come a long way over the past year. Indeed, the emergence of Russia has been reflected in the expanding investor base of the Fleming fund.

While last year, only hedge funds with a speculative profile were prepared to invest, traditional emerging markets investors such as pension schemes are now buying into the fund, Mr Bates says.

"This market has developed so much faster than anyone, including ourselves, ever thought."

# Huhtamaki blames fall on strikes in US sport

**By Hugh Carnegy in Stockholm**

Huhtamaki, the Finnish confectionery-to-contraceptives group, yesterday blamed a strengthening of the Finnish markka and a slump in sales of collectable sports cards in the US for a 35 per cent fall in profits in the first eight months of the year. Profits after financial items fell from FM309m in the same period last year to FM201m ($46.9m).

Huhtamaki said it expected a turnround in profitability in the final four months of the year because of an improving outlook in its confectionery and packaging divisions.

But it warned that profits were unlikely to reach last year's full-year surplus of FM442m, implying a second successive year of falling returns.

A factor hitting all three main divisions – including the pharmaceuticals operations, during the first eight months – was a strong rise in value of the markka which left group sales down 6 per cent, from FM5.55bn to FM5.24bn. About 85 per cent of sales are generated outside Finland and Huhtamaki said currency factors knocked FM800m off sales.

In the Leaf Group confectionery and cards division, which accounts for 57 per cent of group sales, turnover was down 10 per cent at FM2.97bn. The chief reverses were a 12 per cent fall in confectionery sales in North America and a 51 per cent fall in sales at the Donruss collectable cards company.

Strikes in professional sports in the US – particularly the long 1994-95 baseball strike – hit the American card market hard, but Huhtamaki said the end of the disputes should revive sales.

The Polarcup food packaging division returned a 2 per cent increase in sales to FM1.7bn in spite of the adverse currency position. Leiras pharmaceuticals, which includes contraceptives among its products, saw sales fall 4 per cent to FM549m.

## EUROPEAN NEWS DIGEST

### Dior makes strong first half advance

Christian Dior, the French fashion group, yesterday posted net profits in the first half up 23 per cent from FFr419m to FFr516m ($105m). The group reported in July that sales had risen during the period from FFr12.4bn to FFr13.8bn. It said yesterday that the increase in net profit stemmed mainly from the growth in its operating activities and from the effect on a complete semester of the increase of its stake in LVMH since April 1994.

The group said sales at its Christian Dior Couture unit rose 12 per cent in the period to FFr476m and net profit rose 8 per cent to FFr65m. Christian Dior said it would call an AGM at the year-end to approve the establishment of the Couture business as a separate entity. The 1995 dividend prepayment of FFr5.50 would be made on December 4. *AFX News, Paris*

### Gemina shares lose another 4%

Shares in Gemina fell a further 4 per cent yesterday in heavy trading as investors expressed continued concern about the Italian investment company's half-year results and an investigation opened by Milan magistrates. The company's shares have now fallen more than 17 per cent since RCS, its publishing and media subsidiary, announced half-year losses of L276bn ($171m) a week ago. On Saturday, Gemina – which is controlled by a group of Italy's largest and oldest companies – announced a half-year pre-tax loss of L341bn.

The decline in the share price has affected the whole market, dragging down the shares of other companies involved in the controversial plan to merge Gemina with Ferruzzi Finanziaria (Ferfin), the holding company which controls the Montedison industrial group.

On Monday, directors of Gemina and RCS met officials at Consob, the Italian markets watchdog, which is now examining the two companies' explanation of the unexpected losses. Meanwhile, Milan magistrates have refused to go into more detail about an investigation opened by prosecutor Mr Francesco Greco into the relationship between Gemina and RCS. *Andrew Hill, Milan*

### Carrefour sales up at nine months

Carrefour, the leading French supermarket group, yesterday reported sales up 8.3 per cent to FFr118bn ($23.9bn) for the first nine months of the year. Turnover in France rose 5.9 per cent to FFr72bn, compared with the first nine months of last year.

For September alone, group sales rose 10 per cent to FFr14bn, and those in France by 8 per cent to FFr9bn. The group opened three new stores last month: in Bèlges in France, in Brazil and in Spain. It operates 236 hypermarkets in the world, including 117 in France. *Andrew Jack, Paris*

### Moody's cuts Daimler rating

Moody's, the international credit rating agency, has lowered the senior debt ratings of guaranteed subsidiaries of Daimler-Benz, Germany's largest industrial group, to A1 from double-A3 in response to the deteriorating conditions in the aerospace sector and the under-performance of the group's AEG businesses. About $6bn of long-term debt is affected.

Moody's noted that Daimler's new management team was re-shaping the company's business portfolio after the accumulative strategy of the 1980s but that the process was likely to take longer than management would like. Moody's said the rating acknowledged the continuing strength of Mercedes-Benz, the group's car and commercial vehicle division, in its core market segments, as well as the financial flexibility of the group. *Antonia Sharpe*

THE ZAMBIA PRIVATISATION AGENCY IS OFFERING FOR SALE

INDECO MILLING LIMITED

Indeco Milling Limited is located in Ndola on the Copperbelt at the hub of the mining and industrial activity. The city is serviced by a network of national and international road, rail and air links.

The company produces mealie meal and stock feeds. The company's facilities comprise the Ndola Mill, Stockfeed Plant, Warehouse and Offices which are all located on the same site and have direct access to the lucrative Copperbelt market. The Ndola Mill forms the major facility of Indeco Milling Limited.

*Supply, Production and Markets*
Indeco Milling produces two major brands of mealie meal, breakfast and roller and also produces stock feeds. The optimal production levels of 79,000 tonnes of mealie meal and 29,000 tonnes of stock feeds per annum could yield revenues in excess of US$20 million per annum. Both mealie meal and stockfeed products are of high quality and excellent reputation in the market. There is also scope for export to neighbouring countries. It also has a ready and demanding market for the by-products of maize, namely mealie sumps, brewers grit and stockfeed. The key raw material, maize grain is locally grown in Mkushi farming block not far away from the city of Ndola where the mill is located. Wheat flour can also be produced by the maize mill thereby providing a wider product range than its competitors.

*The Ndola Mill*
The New Ndola Mill was rehabilitated in 1994 under the aegis and assistance of the KFW of Germany on a soft loan currently estimated to stand at US$5 million. The rehabilitated New Ndola Mill is radically superior to almost all other mills in the country. Its technological advantages include:-
- intensive dampening of maize grain to ensure moisture penetration, thorough maize grading by the combinator, airtronic rollerstands with milling precision, concentrators for product quality enhancement, installed weighter and flow balancers to ensure uniform feeding of the products to various machines, pneumatics conveying systems and in addition, the mill can easily be adjusted to produce wheat flour.

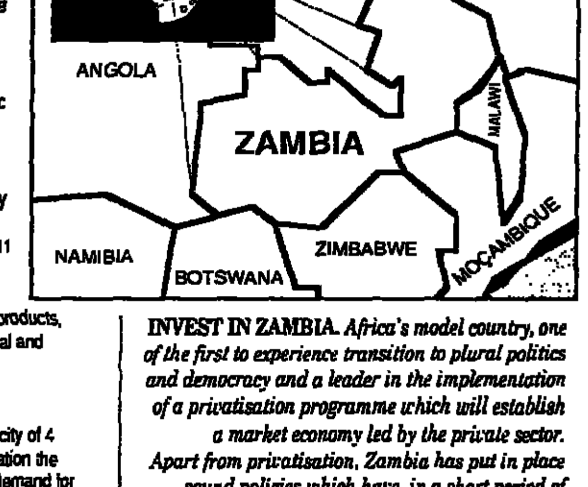
*Key strengths of the Ndola Mill*
- Maize intake rated capacity of 70 tonnes per hour.
- Storage silos capacity of 2400 metric tonnes.
- Intermediate six storage concrete bins of 480 metric tonnes capacity.
- Screening room with a rated capacity of 14 tonnes per hour.
- Mill section with a rated capacity of 11 tonnes per hour.

The extraction rate at more than 87% without sacrificing the quality of products, compares favourably with both regional and international standards.

*The Stock Feed Plant*
The Stockfeed plant has a rated capacity of 4 tonnes per hour. With market liberalisation the company is witnessing an increased demand for by-products of maize milling. The company has domestic and export orders for brewers grit and local demand for stockfeed.

*Workforce*
Indeco Milling currently employs approximately 150 people.

*Offers*
Offers are invited for the purchase of Indeco Milling Limited.



INVEST IN ZAMBIA. *Africa's model country, one of the first to experience transition to plural politics and democracy and a leader in the implementation of a privatisation programme which will establish a market economy led by the private sector. Apart from privatisation, Zambia has put in place sound policies which have, in a short period of time, reduced inflation and stabilised exchange rates. The abolition of exchange controls in January, 1994 made the local currency, the Kwacha, fully convertible.*

*The Zambia Privatisation Agency (ZPA) is an autonomous Agency of the Government of Zambia. The function of the Agency is to plan, implement, and control the privatisation of State owned enterprises in Zambia.*

Young & Rubicam 1055c

Zpa

For further information about bid submission contact:
The Chief Executive
ZAMBIA PRIVATISATION AGENCY
P O Box 30819, Lusaka, Zambia
Telephone: 260-1-227851, 221866, 227791. Telefax: 260-1-225270

Bidders will be required to sign a confidentiality agreement and pay US$100 or K80,000 for receipt of a tender package.

***The closing and opening date for submission of bids is 3rd November, 1995 at 15:00 hours.***

The Financial Times plans to publish a survey on

Greece

on Monday, November 6.

This survey will be seen by leading international businessmen in 160 countries.

If you would like to promote your organisation to this important audience please contact

**Alec Kitroeff in Athens**
Tel: +30 1 671 38 15
Fax: +30 1 647 9372

**Kirsty Saunders in London**
Tel: +44 171 873 4823
Fax: +44 171 873 3204

**FT Surveys**

*High performance tax research*

The most comprehensive CD tax reference services, HyperTax and HyperVAT are the ultimate research tools for checking the details of any aspect of tax legislation and compliance.

Operating under Microsoft Windows on IBM and compatible PCs, you have immediate access to a wealth of tax data.

There are the full texts of all current legislation, Inland Revenue and Customs & Excise statements and releases; details of thousands of tax cases and tribunal decisions; official forms, with instructions for completion; commentary on the latest Finance Act and much more.

Everything is updated regularly, and extensive indexing and numerous help screens enable you to find the information you need straight away.

You can enter a topic or item of legislation and see at-a-glance all the information there is on the subject.

You can add your own notes and mark points for future reference.

It's also possible to back-track the last ten documents consulted and turn immediately to the first or last page of each document.

See HyperTax and HyperVAT on stand 312 at
THE ACCOUNTANTS AND FINANCIAL DIRECTORS EXHIBITION
Barbican Exhibition Centre, Oct 17-19

HypertTax and HyperVAT are easy to use, and the speed at which you can get the answer to your question or check the technicalities of the law knocks hours off research time.

To find out more, send for full details, or visit the *Accountants and Financial Directors Exhibition* at the Barbican, October 17-19, and see HyperTax and HyperVAT on stand 312.

For free tickets to the *Accountants and Financial Directors Exhibition* please return the coupon or call 0800 289 618.

☐ Please provide more information on: HyperTax & HyperVAT
☐ Please send ___ free tickets to the Accountants & Financial Directors Exhibition
NAME
FIRM
ADDRESS
POSTCODE TEL

FT LAW & TAX
FT Law & Tax
FREEPOST
21-27 Lamb's Conduit Street
London WC1N 3BR

TENDER NOTICE

UK GOVERNMENT ECU TREASURY BILLS

For tender on 10 October 1995

1. The Bank of England announces the issue by Her Majesty's Treasury of ECU 1,000 million nominal of UK Government ECU Treasury Bills, for tender on a bid-yield basis on Tuesday, 10 October 1995. An additional ECU 50 million nominal of Bills will be allotted directly to the Bank of England for the account of the Exchange Equalisation Account.

2. The ECU 1,000 million of Bills to be issued by tender will be dated 12 October 1995 and will be in the following maturities:
**ECU 200 million for maturity on 16 November 1995**
**ECU 500 million for maturity on 11 January 1996**
**ECU 300 million for maturity on 11 April 1996**

3. All tenders must be made on the printed application forms available on request from the Bank of England. Completed application forms must be lodged, by hand, at the Bank of England, Customer Settlement Services (formerly Securities Office), Threadneedle Street, London not later than 10.30 a.m., London time, on Tuesday, 10 October 1995. Payment for Bills allotted will be due on Thursday, 12 October 1995.

4. Each tender at each yield for each maturity must be made on a separate application form for a minimum of ECU 500,000 nominal. Tenders above this minimum must be in multiples of ECU 100,000 nominal.

5. Tenders must be made on a yield basis (calculated on the basis of the actual number of days to maturity and a year of 360 days) rounded to two decimal places. Each application form must state the maturity date of the Bills for which application is made, the yield bid and the amount tendered for.

6. Notification will be despatched on the day of the tender to applicants whose tenders have been accepted in whole or in part. For applicants who have requested credit of Bills in global form to their account with ESO, Euroclear or CEDEL, Bills will be credited in the relevant systems against payment. For applicants who have requested definitive Bills, Bills will be available for collection at Customer Settlement Services, Bank of England after 1.30 p.m. on Thursday, 12 October 1995 provided cleared funds have been credited to the Bank of England's ECU Treasury Bills Account No. 59005516 with Lloyds Bank Plc, Bank Relations, St George's House, PO Box 787, 6-8 Eastcheap, London EC3M 1LL. Definitive Bills will be available in amounts of ECU 10,000, ECU 50,000, ECU 100,000, ECU 500,000, ECU 1,000,000, ECU 5,000,000 and ECU 10,000,000 nominal.

7. Her Majesty's Treasury reserves the right to reject any or part of any tender.

8. The arrangements for the tender are set out in more detail in the Information Memorandum on the UK Government ECU Treasury Bill programme issued by the Bank of England on behalf of Her Majesty's Treasury on 28 March 1989, and in supplements to the Information Memorandum. All tenders will be subject to the provisions of the Information Memorandum (as supplemented) and to the provisions of this notice.

9. The ECU 50 million of Bills to be allotted directly to the Bank of England for the account of the Exchange Equalisation Account will be for maturity on 11 April 1996. These Bills may be made available through sale and repurchase transactions to the market makers listed in the Information Memorandum (as supplemented) in order to facilitate settlement.

10. Copies of the Information Memorandum (and supplements to it) may be obtained at the Bank of England. UK Government ECU Treasury Bills are issued under the Treasury Bills Act 1877, the National Loans Act 1968 and the Treasury Bills Regulations 1968 as amended.

Bank of England
3 October 1995

هكذا من الأصل

### Chairman delivers fresh broadside against Kirk Kerkorian campaign

# Chrysler in talks on foreign joint ventures

**By Richard Waters in New York**

Chrysler is discussing a number of joint ventures with foreign automotive groups as part of a big push into international markets, Mr Robert Eaton, the US company's chairman, said yesterday.

Mr Eaton outlined the company's plans in New York as he mounted his latest broadside against Mr Kirk Kerkorian, the billionaire investor who has mounted a campaign to force the carmaker to distribute more of its cash to shareholders.

Expansion in faster-growing overseas markets was one of the main reasons Chrysler would need cash in the future, Mr Eaton said.

The Chrysler chairman refused to name the foreign companies Chrysler is talking to. However, he said Volvo was not among them.

Two weeks ago, the Swedish car and truck maker's shares jumped on speculation that Chrysler was building a strategic stake in the company.

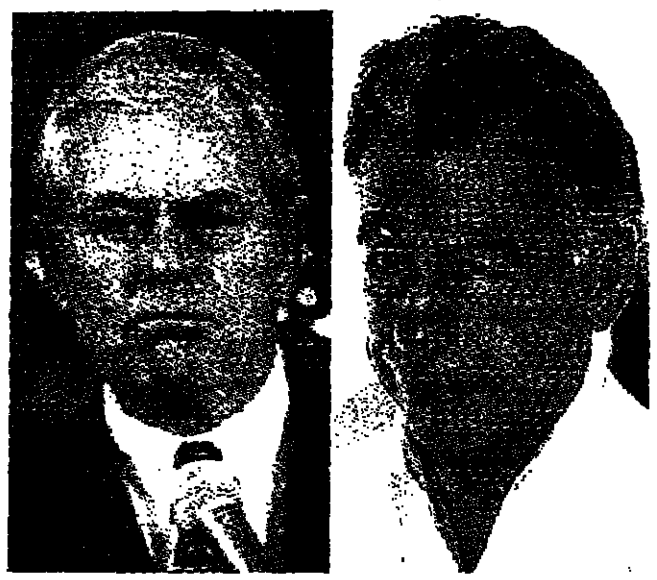
The emphasis on foreign expansion marked a new departure in Chrysler's continuing battle with Mr Kerkorian, its largest shareholder. Until now, the company has said that it needs its cash horde, which amounts to more than $8bn, to protect itself against the effects of a downturn in the North American car and light truck markets, which account for the bulk of its sales.

Yesterday's comments, made before some 200 institutional shareholders and others in New York, marked the high point of the Chrysler chairman's recent campaign against attacks from the Kerkorian camp.

In recent weeks, Mr Eaton has canvassed support in face-to-face meetings with some of the company's biggest shareholders, among them Fidelity, the Boston-based mutual fund giant. At the start of this week, the company also launched an advertising campaign in the US to argue its case.

International expansion was one of three reasons listed by Mr Eaton yesterday for Chrysler's plans to have $7.5bn on hand when the next US recession hits.

"The biggest driver of shareholder value is profitable growth," he said. "We think international expansion provides the best opportunities for that growth."



Robert Eaton (left): cash horde for foreign expansion, not shareholders as argued by Kirk Kerkorian (right)

Unlike its bigger rivals, General Motors and Ford, Chrysler has remained largely reliant on the US, making it more vulnerable to a downturn in its home market.

Mr Eaton pointed to southeast Asia and Latin America as areas where Chrysler is looking to expand. The company has already announced a number of ventures in these markets, including a new plant in Argentina, plans to develop production in Vietnam, and an expanded distribution network in Japan.

"In addition, we are exploring more than a half-dozen joint ventures with foreign companies, some quite significant in size," he said.

Besides international growth, Chrysler would need its cash pile to survive the next recession and to maintain its investment plans during leaner years, Mr Eaton said.

The tussle with Mr Kerkorian cooled earlier this year when the Las Vegas-based investor was unable to raise the finance for a proposed buy-out of the company.

It was rekindled a month ago, however, when Mr Kerkorian hired Mr Jerome York, a former Chrysler chief financial officer, to spearhead a new campaign against the carmaker's management team.

In comments made after his speech yesterday, Mr Eaton gave further details of why Chrysler would need $7.5bn. During the last recession, the company had consumed $4bn of cash, he said, adding that since then the company had grown in size by 80 per cent.

In addition, Chrysler needed around $1bn to "keep the company running".

In a sideswipe at Mr York, Mr Eaton said of the company's conservative financial strategy: "Jerry York is the architect of that."

Mr York could not be reached for comment immediately after Mr Eaton's comments. He has mounted a campaign of his own in the past month, though, to persuade big investors that Chrysler does not need to hold so much cash.

# Texaco faces $55m charge for job cuts

Texaco, the US oil group, says its cost-cutting efforts will result in a third-quarter after-tax charge of about $55m, related to additional job losses, Reuter reports from New York.

The third-quarter results will also include a $27m gain from the previously announced sale of Texaco's interest in Pekin Energy, and tax benefits of some $45m realised through the sale of an interest in a subsidiary.

By the end of 1996, Texaco said, its cost-cutting programme will have resulted in 4,000 fewer positions worldwide compared with June 1994, when the company had about 28,000 employees. This will be achieved partly through non-core asset sales.

Texaco said its plan to reduce staff by some 2,500 had already been realised.

Texaco anticipated savings of $300m a year as part of its strategy for growth, announced in July 1994. These are being realised.

Additional programmes involving outsourcing activities, further reduction of layers of supervision, and business process improvements will result in expected savings of an additional $150m annually by the end of 1996, the company said.

For the third quarter ended September 3 1994, Texaco reported net income of $281m, or 98 cents a share, on revenues of $8.96bn.

# Cognos soars after robust sales growth

Cognos, one of Canada's best-known software developers, reported a 123 per cent increase in earnings to C$4.6m (US$3.4m), or 34 cents a share, from C$2.1m, or 16 cents, a year earlier. Revenues were C$48.5m, up 20 per cent, writes Robert Gibbens.

For the first half ended August 31, net profits rose to C$7.9m, or 58 cents a share, from C$3.3m, or 25 cents, on revenues of C$95m, up 21 per cent. For the full year, revenues are expected to pass C$200m.

New product sales rose significantly in the latest quarter, and overall exports to the US gained 23 per cent, said Mr Ron Zambonini, who has taken over as chief executive.

# Birmingham Steel in iron plant project

Birmingham Steel and Georgetown Industries of the US are to form a joint venture to construct and operate a direct reduced iron manufacturing facility in Louisiana, AP-DJ reports from Birmingham, Alabama.

The expected cost of the project was not disclosed.

The companies said the proposed plant would produce about 1.2m metric tonnes of direct reduced iron a year.

The facility, which will be at a site on the Mississippi River, is expected to start operating in late 1997.

Birmingham Steel and Georgetown will each own a 50 per cent equity interest in the venture; each will also be responsible for using 50 per cent of the operation's output.

Georgetown will manage the daily operations of the proposed plant.

The companies are considering expanding the project to include a second unit to provide other US electric furnace producers with a supply of direct reduced virgin iron units for low residual steel production.

Birmingham Steel will use its portion of the plant's iron production primarily as feedstock for its Memphis, Tennessee, melt shop, which will begin operations in the second quarter of 1997. It operates steel mini-mills and manufactures rod and wire, while Georgetown Industries is a privately held steel rod producer.

# Hawker Siddeley Canada sells business

**By Robert Gibbens in Montreal**

Hawker Siddeley Canada, now widely held since the UK's BTR sold its 59 per cent stake in 1994, has finally found a buyer for its sawmill machinery manufacturing subsidiary.

Privately-held US Natural Resources has signed a letter of intent to buy HSC's Consolidated Sawmill Machinery International for an undisclosed price.

Last month Mr Keith Moore, HSC president, said Gordon Capital had been hired to examine the company's future, with re-capitalisation or outright sale as options for consideration. This followed the rejection of a bid for HSC's profitable railcar leasing unit.

Other HSC units make aircraft engines and industrial parts, and operate clinics performing laser eye surgery. The mining equipment unit in Britain was sold off earlier this year. The sawmill machinery unit was moved from western Canada to the US several years ago, but has long been a lossmaker.

In the first half, HSC lost C$700,000 (US$519.7m), or 14 cents a share, on revenues of $174m, against a loss of $12.1m, or $1.53, on revenues of $153m a year earlier.

The largest single shareholder is the Ontario Municipal Employees Retirement System, with 24 per cent.

● SNC Lavalin, the international engineering consultant and contractor, is expected to be awarded the management contract for Canada's Radarsat II, a satellite-based remote sensing project worth at least C$300m.

The contract will be awarded by the Canadian Space Agency, a federal organisation, and funded by the Canadian government and the private sector.

Radarsat II will be much more advanced than Radarsat I; its satellite will orbit 800 miles above the earth and provide geophysical data even through cloud cover. The data will be marketed worldwide.

SNC will carry out final feasibility studies and manage the consortium.

## AMERICAS NEWS DIGEST

# Lockheed proposes multimedia satellite

Lockheed Martin, the US aerospace group, plans to build a $4bn global multimedia communications satellite system to provide digital voice, data and video links. It is also seeking partners in the venture. The company said it filed an application with the Federal Communications Commission (FCC) last week, to build, launch and operate the satellite system, called Astrolink.

Astrolink will provide high-data rate, digital communications services to businesses and telephone companies worldwide, Lockheed said. Its plans are subject to regulatory approval. The company said it would proceed when it had obtained commitments from partners in the telecommunications industry and external investment.

"This project reflects our commitment to the commercial space business and expands our role in the growing telecommunications services market," said Mr Vance Coffman, president and chief operating officer of Lockheed Martin's Space & Strategic Missiles Sector. Mr Coffman said Lockheed Martin would seek domestic and international partners and investors in the project.

In its FCC application, the company detailed plans for a global satellite network using a constellation of nine geo-stationary satellites located in five separate orbit positions and connected by intersatellite links.

*Louise Kehoe, San Francisco*

# ADC, Hitachi Telecom deal

ADC Telecommunications of the US and Hitachi Telecom (USA), a unit of Japan's Hitachi, have formed a long-term alliance to sell, market and support Hitachi's telecommunications products in North America, Mexico and the Caribbean. Financial terms were not disclosed.

The companies said the first phase of the agreement, effective immediately, was a broad sales and marketing arrangement to provide end-to-end solutions to customers. It includes marketing Hitachi's synchronous optical network and asynchronous transfer mode equipment with ADC's broadband access products, including the Soneplex and Homeworx access-transport platforms.

ADC will provide marketing, sales and customer support for Hitachi products.

The companies said they were beginning talks on the second phase of the alliance, to form a joint venture that would address collaboration on new products and further integration of product lines.

*AP-DJ, Minneapolis*

# GE Capital property buy

GE Capital Realty Group, a unit of General Electric's GE Capital, is to acquire the assets of MacFarlane Partners LP, a minority-owned real estate advisory firm based in San Francisco. Financial terms were not disclosed.

GE Capital said the acquired business would trade under the name GE Capital Investment Advisors. MacFarlane has $1.8bn in real estate assets under management. MacFarlane's management will remain in place. The agreement is expected to be completed by November 30.

*AP-DJ, Stamford*

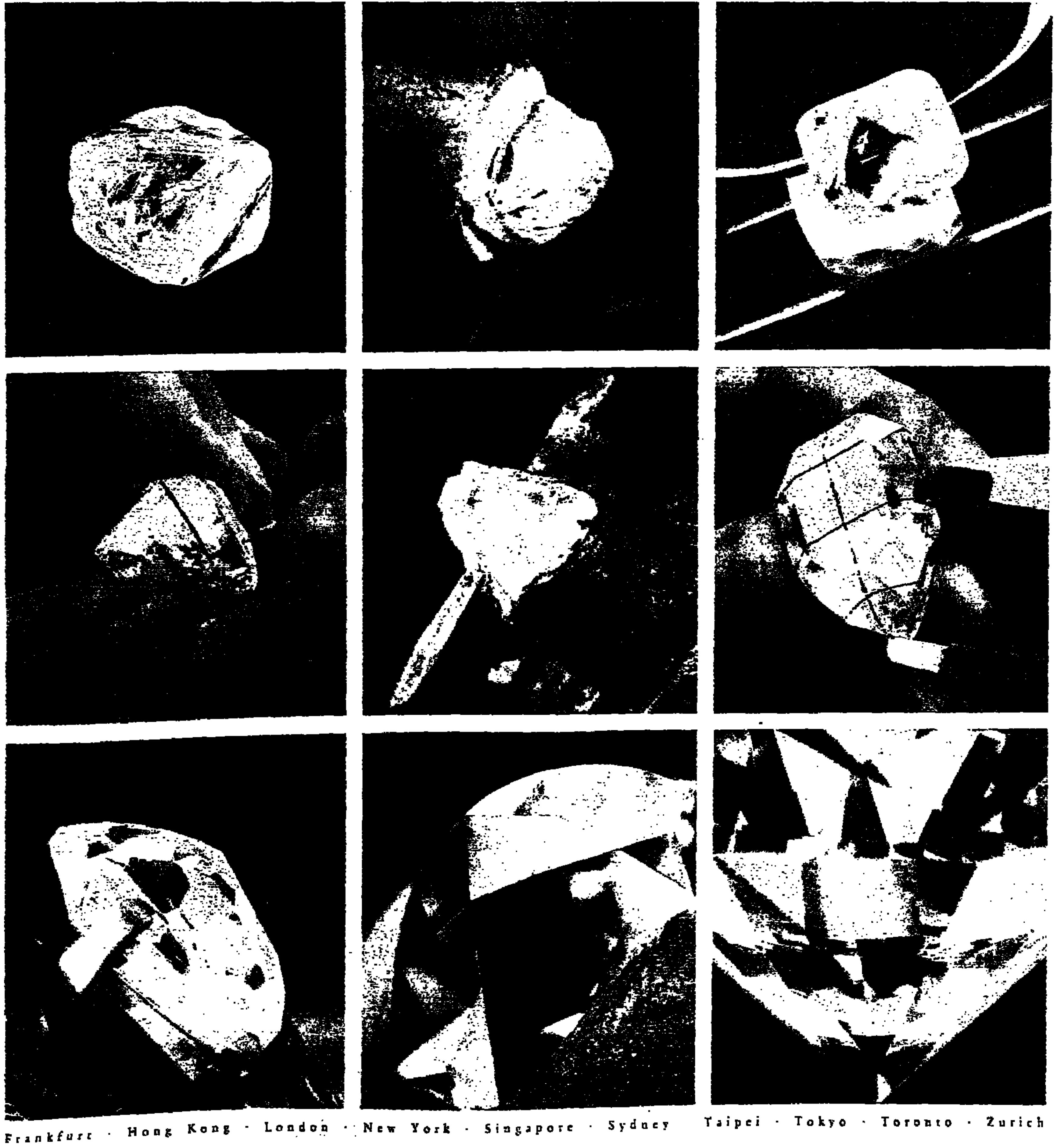
# Motorola expands in China

Motorola, the US cellular telephones group, has won two cellular infrastructure orders worth about $268m from the Chinese post and telecommunications ministry and Zhejiang Technical Import and Export.

The contracts expand on existing agreements to manufacture and distribute cellular infrastructure equipment in the country.

*AFX, Arlington*

Photographs courtesy of De Beers.



Frankfurt · Hong Kong · London · New York · Singapore · Sydney · Taipei · Tokyo · Toronto · Zurich

Master the detail. Manage the risk.™

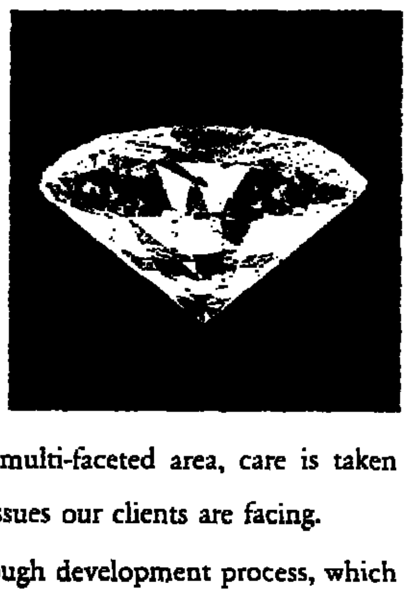
At UBS, our approach to global risk management is like the diamond cutter's approach to his work.

It starts with a detailed evaluation of the task.

We have no interest in short-term thinking or superficial solutions: in this multi-faceted area, care is taken to consider the full array of issues our clients are facing.

It continues with a thorough development process, which calls for technical skill, and specialist tools. Only then do we propose comprehensive, precisely-designed and innovative risk management strategies.

And the outcome? A goal totally aligned with that of the diamond cutter: detailed judgements and calculations, leading to a polished and flawless product.



Global Risk Management

Union Bank of Switzerland

London: Equity Derivatives +44 171 901 1175, Fixed Income & Currency Derivatives +44 171 901 4942.
Zurich, Equity Derivatives +41 1 234 4445, Fixed Income & Currency Derivatives +41 1 235 5326
In London, Union Bank of Switzerland and UBS Limited are regulated by the SFA

*Notice of Payment of Principal Installment and Interest*

**Siderca** S.A.I.C.

(INCORPORATED IN ARGENTINA)

10% NEGOTIABLE OBLIGATIONS — CLASS 1991

Notice is hereby given of the payment on November 7, 1995 of the seventh installment of principal and the eighth payment of interest on the 10% Negotiable Obligations - Class 1991.

The payment of the principal installment will be equal to 11.11% of the face value of the Negotiable Obligations.

For the 183 day (360 day basis) Interest Period from May 8, 1995 to November 7, 1995 interest will be payable in US Dollars per $1,000 denomination, $16.95; per $10,000 denomination, $169.48; and per $100,000 denomination, $1,694.78.

The corresponding payment of principal and interest shall be effected upon presentation of Coupon No. 8, as of November 7, 1995, to the respective Paying Agents as follows:

**The Bank of New York**
46 Berkeley Street
London WIX 6AA, England
Between 9:00 a.m. and 4:00 p.m.

**Kredietbank S.A., Luxembourgeoise**
43 Blvd. Royal — L 2955 Luxembourg
Grand Duchy of Luxembourg
Between 8:30 a.m. and 4:30 p.m.

**Banque Bruxelles Lambert**
Ave. Marnix 24
B1050 Brussels, Belgium
Between 9:00 a.m. and 4:00 p.m.

**Banco Rio de la Plata**
Bartolomé Mitre 480 — 4th Sub.Basement
Buenos Aires, Argentina
Between 10:00 a.m. and 3:00 p.m.

(Payment in Buenos Aires requires five Business Days prior Coupon presentation.)

THE BANK OF NEW YORK

**The Bank of New York**
*as Fiscal Agent*

October 4, 1995

# Voisey Bay puts sparkle in shares

## Mineral find gives Robert Friedland a chance to repair his reputation

Robert Friedland: 'a noble silence' since Summitville's collapse

Even those closest to Mr Robert Friedland have strongly differing views about the 45-year-old financier's business ventures. Mr Friedland's daughter, a Buddhist nun, has berated her father for his involvement in an environmental catastrophe at a gold mine in the Colorado Rockies.

On the other hand, Mr Friedland's secretary recently took early retirement in her 30s, thanks to a C$1m-plus (US$752,000) nest egg that she garnered from the sale of share options in Diamond Fields Resources, another Friedland venture.

Diamond Fields was just one of many junior exploration outfits that dot Vancouver's financial landscape until it discovered a vast nickel, copper and cobalt deposit last year at Voisey Bay, Labrador. Voisey Bay is expected to produce at least 133m lb of nickel a year by the end of the decade, equal to 8 per cent of current world consumption.

Diamond Fields' shares, which are listed on the Toronto stock exchange, have jumped from C$4 to more than C$90 in less than a year. Following a four-for-one share split last month, they are now trading at C$23, making Mr Friedland's 14 per cent stake worth about C$350m.

Mr Friedland also has voting control over minority stakes in Diamond Fields acquired earlier this year by Inco, the western world's biggest nickel producer, and Teck, another respected Canadian mining group.

Besides enormous wealth, Diamond Fields has given Mr Friedland an opportunity to repair his reputation.

He has yet to clear his name from the collapse of Galactic Resources, whose main asset was the Summitville mine in Colorado's San Juan mountains.

Summitville stopped operations in late 1992 and Galactic declared bankruptcy shortly afterwards amid accusations that negligent management had allowed toxic cyanide and copper waste to seep from heap leach pads into the area's water supply. These pads are used as liners in the extraction process. Mr Friedland was Galactic's chief executive and controlling shareholder during most of the 1980s.

The damage has left the US Environmental Protection Agency with a large clean-up and reclamation job which includes moving millions of tonnes of tailings back into mined-out pits. The EPA estimates that about two-thirds of the work has been done. The final bill is expected to reach $120m.

"We are still pursuing a case against Friedland," says an EPA official in Denver. "We want to get him to pay for some of this clean-up." A grand jury is investigating the role of participants in the project.

Mr Friedland's chequered background includes a partnership with Mr T. Boone Pickens, the Texas oilman, which took an abortive run at Newmont Mining, the US metals producer, in 1987.

Mr Friedland, who has joint US and Canadian citizenship, now lives in Singapore. He says Diamond Fields Resources "is a very small subset of what I'm engaged in in mining, and mining is a small subset of what I'm involved in in business".

A brochure for his holding company, Ivanhoe Capital, lists almost a dozen affiliates with interests ranging from oil, gas and metals exploration in Mongolia to low-cost housing in Shanghai.

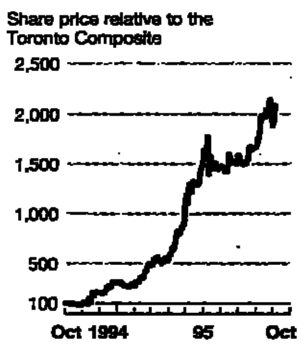
Mr Friedland says that one of his ventures is two-thirds of the way through a feasibility study for a large copper mine in Myanmar (Burma).

On the advice of his lawyers, Mr Friedland has kept what he calls "a noble silence" since Summitville's collapse almost three years ago.

"The time will come in the not-distant future when there'll be a more realistic appraisal of what happened there," he says.

He complains that others involved in the ill-fated project, such as engineering consultants and banks, have so far largely escaped public scrutiny. "Success has a thousand fathers, and failure is an orphan," he adds. (Under US environmental law, Mr Friedland and Galactic's other principals would be free to launch third-party lawsuits against other potentially culpable parties.)

**Diamond Fields**



Source: FT Extel

However, Mr Friedland has recently begun to take a higher profile, briefing analysts and journalists on Diamond Fields' success at Voisey Bay.

His message is that Voisey Bay will be the world's lowest cost nickel producer, with virtually all its nickel costs covered by copper and cobalt revenues.

Over 30m tonnes of mineable reserves have been discovered, and Mr Friedland says ebulliently that "this thing is definitely getting bigger every day".

His enthusiasm has rubbed off on some analysts. Nesbitt Burns, one of Canada's biggest securities firms, predicted in a recent report that Diamond Fields "will likely delineate reserves of at least 100m tonnes within two years".

Only further large discoveries can justify the current share price.

In spite of Diamond Fields' success at Voisey Bay, many in the mining community continue to keep their distance from Mr Friedland. The chief executive of one large mining group says "you have to give him full marks for a masterful deal with Inco and Teck. He does put his money where his mouth is." But, this chief executive adds, "he's not a miner's person".

Mr Friedland's main role at Diamond Fields is to talk to the many other mining companies that have expressed an interest in the project. He cautions that "we're fairly adamant that we don't want to sell another slice of the pie at this time".

Although he has no operating role in his latest project, Mr Friedland says that "having lived through the Summitville experience, I would want Voisey Bay to be as environmentally bullet-proof as it can be".

However, US authorities have a word of advice for the Canadian regulators who will vet Voisey Bay's environmental impact over the next year or two.

With the EPA having quickly exhausted the US$4.7m bond provided by Galactic Resources at Summitville, the Denver-based EPA official hopes the Canadians "make [Mr Friedland] put up a lot of money ahead of time".

**Bernard Simon**

# Peps boost flow into UK bond funds

**By Antonia Sharpe**

UK bond funds enjoyed their biggest inflow for over a year in August, following the launch of corporate bond personal equity plans (Peps) the previous month.

According to monthly mutual fund flows data compiled by J. P. Morgan, the US investment bank, £65.7m ($104.2m) was invested in UK bond funds in August, up from £33m in July.

Although officially launched in July, most of the Peps did not start to take in investments until August.

Equity funds in the UK again saw large net subscriptions in August, with flows into international funds substantially outstripping those into domestic funds. In August, £670.2m was invested in equity funds, with £270.6m going into domestic funds and £399.6m in international funds.

According to the Association of Unit Trusts and Investment Funds, flows into international funds were concentrated on Asia-Pacific region markets. By contrast, institutions were net sellers of North American equity funds.

US mutual funds continued to see substantial flows into equity funds, aimed largely at the domestic market. Flows into international funds increased to $800m in August from $400m in July, while domestic funds took in more than $12bn in that month. Flows into global funds fell to $600m from $1.1bn the previous month.

Flows into continental European equity funds in August followed the slow pattern of previous months, with subscriptions to French equity Sicavs returning to the red after a small inflow the previous month.

By contrast, foreign equity Sicavs registered a small net inflow, of FFr100m ($20.2m), their first since February. Mixed funds took in FFr600m, which J. P. Morgan estimates was invested entirely in international funds.

In total, net subscriptions to French Sicavs rose to FFr26bn from FFr13.8bn in July, the highest level since January 1994.

As in July, this result was due almost entirely to net subscriptions to money market Sicavs, which recorded an inflow of FFr27n, the largest inflow in the last 18 months.

Outflows from Italian mutual funds slowed from the pace of previous months, to L4bn ($2.5m) in August from L955bn in July. Domestic institutions, however, remained sellers in August, in spite of the stronger lira and a more settled political environment.

Equities remained out of favour in Italy and mutual funds overall were net sellers of L50bn of domestic shares and L350bn of international shares.

By contrast, bond markets returned to favour, particularly in southern Europe where they performed well over the summer.

Italy enjoyed its first inflow to bond funds since May 1994, of L560bn, after an outflow of L78bn in July. Most of the money was put into short-term domestic instruments, while international bond funds saw net redemptions.

German mutual funds attracted DM3.9bn ($2.7bn) in July, the highest level this year, boosted by a significant increase in subscriptions to fixed-income funds after a quarter of unusually low subscriptions.

**ASIA-PACIFIC NEWS DIGEST**

## National Mutual to reduce Seven stake

The Australian Broadcasting Authority (ABA), Australia's media regulator, has ordered investment group National Mutual to partially divest its shareholding in Seven Network, the Australian television group, citing a breach of foreign ownership rules. National Mutual is regarded as a foreign company under Australian media law after the sale of a majority stake in the group to Axa, the French insurance group, earlier this year.

National Mutual holds only 4 per cent of Seven, but this is sufficient to push total foreign shareholding in the broadcaster just above the permissible 20 per cent foreign level when added to News Corporation's 14.5 per cent and other small holdings. The ABA said yesterday that National Mutual had six months to divest sufficient shares to take Seven's foreign ownership below 20 per cent. "Other foreign investors should also be aware that any investment since September 8 1995 could result in the ABA requiring them to rectify the breach, if it means the 20 per cent limit is exceeded," the statement said.

Meanwhile, a A$107m (US$81.6m) takeover bid by Seven Network for Sunshine Broadcasting, a regional television group, was put in doubt yesterday by the emergence of Prime Television, a rival Australian regional broadcaster, with a 10 per cent stake in Sunshine. *Bruce Jacques, Sydney*

## HK Mass Transit raises $300m

Hong Kong's Mass Transit Railway Corporation (MTRC) yesterday said it raised US$300m in its first Yankee bond offering in the US market. The 10-year bond is priced at 113 basis points over 10-year Treasuries to yield 7.264 per cent, and matures on October 1 2005. The lead manager, Goldman Sachs, said: "We believe this will set a benchmark for Hong Kong issues in the US market."

The MTRC issue marks the return of Hong Kong issues to the Yankee market. It follows the issue last October by Wharf, a Hong Kong conglomerate, which floated a $200m bond which failed to ignite investor interest. Morgan Stanley was left holding an unspecified amount of the issue. As well as being lead managed by Goldman Sachs, the MTRC bond was co-managed by with CS First Boston, Lehman Brothers, Merrill Lynch, and J. P. Morgan.

Goldman Sachs said that the bond was well received by investors, who had initially been offered US$250m of securities. It said that three-quarters of the securities was sold to US investors and the remainder to foreign investors. Mr Roger Moss, MTRC finance director, said the corporation was pleased with the favourable market reception. He said it "demonstrates investors' strong confidence in the corporation's credit and the future of Hong Kong". MTRC is rated A by Standard & Poor's and A3 by Moody's Investor Services. *Simon Holberton, Hong Kong*

## ADB attacks ownership curbs

Restrictions limiting foreign ownership of a company's shares in the Asia-Pacific region are inconsistent with the trend towards global liberalisation, the Asian Development Bank (ADB) has said.

"Some nations restrict the percentage of the share capital of local [companies] which may be held by foreign nationals. These types of restrictions are inconsistent with the concept of a borderless world," Mr Charles Coe, ADB financial sector and industry division manager, told a conference in Jakarta.

Mr Coe said it was essential to address the movement towards truly international corporations rather than national ones. Asia-Pacific countries needed to create strong regional markets to complement and compete with European and North American markets. Capital markets in the region needed to focus on issues such as common listing requirements and financial measurements, the development of a regional clearing system and the electronic integration of market trading. *Reuter, Jakarta*

## Japan disc maker plans US plant

Victor Co of Japan (JVC) is to invest $35m to build a plant to make CD-Rom computer discs in Sacramento, the state capital of California.

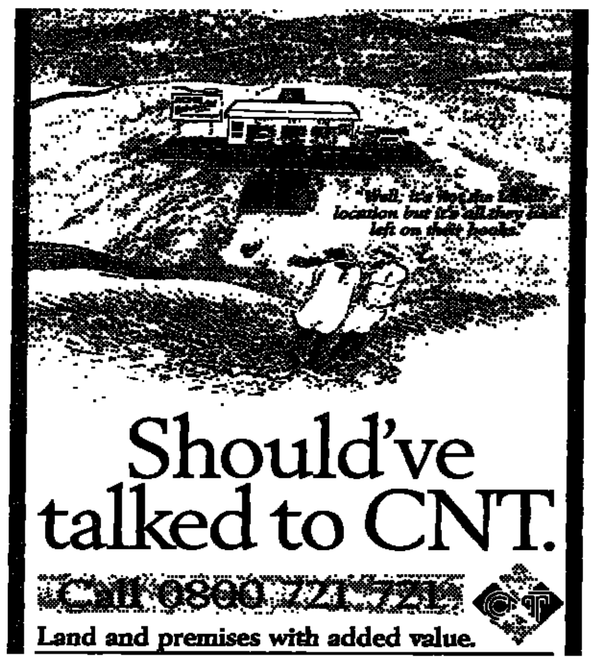
The plant, which is scheduled to start operations in October 1996, will have the capacity to produce 3m CD-Roms a month, the company said. JVC is considering an eventual additional investment to increase the monthly capacity of its new Sacramento plant to 10m CD-Roms in five to six years, he said. JVC already has a CD and CD-Rom plant in Alabama but thinks it will need another plant to meet increasing demand for CD-Roms.

● **Nippon Paper Industries** said it would invest Y32bn ($318m)to increase production facilities at its Iwakuni plant in western Japan because of higher demand for coated paper. The Iwakuni plant's production capacity would rise to 690,000 tonnes a year from the current 450,000 tonnes, the company said. Coated paper is used for leaflets, booklets and other printing. *Reuter, Tokyo*

## Asahi completes glassfibre buy

Asahi Glass said it had purchased the remaining shares in Asahi FiberGlass that had been held by Owens-Corning Fiberglass, the original US partner in the joint venture.

Owens-Corning owned a 28 per cent share in the venture, which was set up in Japan with Asahi Glass in 1956 to produce and market glass fibre. Owens-Corning had a 40 per cent share when the venture was started. Financial details were not disclosed. *Reuter, Tokyo*


"Well, it's not the ideal location but it's all they had left on their books."
Should've talked to CNT.
Call 0800 721 721
Land and premises with added value.

KNIGHT-RIDDER'S FUTURES MARKET DATAKIT FOR ONLY $695

- The best selling SuperCharts Charting Software
- A full year [illegible] end of day quote service
- KRF News Service
- KR Quote End-of-Day Price Retrieval Software
- DATADISK 10 years of daily historical futures data on 40 major markets

$1295 worth of data and software for just $695 plus postage and packing.
More information: [illegible], 78 Fleet Street, London EC4Y 1HY, England Tel: +44 (01) 71 842 4083

Prospect is a new monthly magazine that will provide the thoughtful verview and intellectual stimulus that has become all too rare in the UK.

International in outlook, politically pluralistic and offering analysis nd fine writing, it's designed to be dipped into, savoured and kept.

So you can look forward to high octane writing month after month.

For a free copy and a trial subscription, which you may cancel all (0171) 757 7029.

Fuel
for
thought.

Prospect
THE MAGAZINE FOR A SCEPTICAL AGE

BZW has 37 offices in 28 countries. But it's not just being present in a market that counts. It's the quality of presence we have there.

Reach

هكذا من الأصل

هكذا من الأصل

## INTERNATIONAL COMPANIES AND FINANCE

# Toyota head attacks government policies

### Hiroshi Okuda, president of the carmaker, talks to **William Dawkins and Michiyo Nakamoto** about the future of the industry

Mr Hiroshi Okuda, the new president of Toyota, yesterday accused the government of prolonging the recession and forecast rapid consolidation among Japan's nine car groups over the next five years.

In an unusually outspoken assessment of the outlook for Japan's car industry and economy, Mr Okuda, 62, argued that the government had, from the outset of the economic downturn nearly four years ago, up until August, deliberately allowed the yen to rise. The aim was to put pressure on car and consumer electronics producers to restructure, he maintained.

"The government felt that if you drove up the yen high enough to destroy the car and electronics industries, it would be better for the economy because it would encourage the growth of new industries," said Mr Okuda, who took over the top job at Japan's largest car company in late August.

However, the rise in unemployment, to a record 3.2 per cent, and three bank collapses in August, alarmed the government into abandoning austerity, he claimed. That was when the Bank of Japan intervened to bring down the yen, followed in September by a cut in the official discount rate to 0.5 per cent.

Now that government economic policy had switched to reflation, Mr Okuda expected a recovery to emerge in the next month, supported by increased corporate profits, a weaker yen, and the recent rise in share prices. But Japan's maturing economy would grow by no more than 2 to 3 per cent annually for the next decade, less than half the growth rates seen in the 1980s, predicted Mr Okuda. The domestic car market would grow even more slowly, by 1 to 2 per cent, he estimated.

Mr Okuda's view of the government's hidden economic agenda is privately shared by many businessmen, although vigorously denied by the Bank of Japan.

Until yesterday, few senior businessmen had dared to express it so openly.

Mr Okuda, a straight talker who began his career at Toyota as a salesman in 1955, is the first non-member of the Toyoda family to head the group in nearly three decades. He replaces a son of the founder, Mr Tatsuro Toyoda, 66, who resigned because of illness.

Mr Okuda has taken over at a difficult time in Toyota's fortunes.

Its domestic market share has dropped every month over the past year, from an average of 42 per cent in 1994, to 36.8 per cent in September. This is because Toyota has been slower than competitors to introduce recreational vehicles, the fastest growing part of the market, say industry analysts.

The group's recurring profits – before tax and extraordinary items – are accordingly forecast to fall to Y220bn ($2.2bn) in the year to March, from Y274.8bn last year.

Toyota would recover to 40 per cent market share by December, said Mr Okuda. The company had been slow to pick up on the shift in Japanese consumer taste away from conventional saloons to recreational vehicles, he admitted, but it was launching RVs.

*Hiroshi Okuda: sees a hidden economic agenda in Tokyo*

Japanese car companies are in the throes of a battle for survival in the domestic market, said Mr Okuda. He expected the number of car groupings to be reduced, mainly through purchasing ties, joint ventures, and exchanges of share stakes, from the current nine to five.

However, "if another company falls in the survival game, Toyota will take its share of the market", Mr Okuda emphasised.

Foreign acquisitions of Japanese companies could equally help reduce the industry's overcrowding. Aversion to foreign takeovers had ceased to be a problem, Mr Okuda claimed.

Even after four years of falling production at home, car industry leaders have, until now, been reluctant to admit the need for bold capacity cuts or the possibility of consolidation.

Mr Okuda argued that the domestic car market was unlikely to see a return to the growth rate needed to sustain nine independent manufacturers. Since Japanese carmakers are committed to shifting production abroad, they will not be able to rely on exports to provide further demand. This "will trigger intense competition and ... some companies will not be able to survive," Mr Okuda said.

Five vehicle groups should be able to survive in a Japanese market of 5m vehicles per year, including trucks and imports but excluding mini-vehicles with engine capacity of under 660cc, he predicted. Last year, domestic demand totalled 4.9m vehicles.

Japan's car groups have already, during the recession, increased business ties with each other, to pool costs and seek economies of scale. Toyota is the most recent example, with its decision last month to increase its stake in Daihatsu, a maker of mini-cars, from 16.8 per cent to 33.4 per cent.

"Once that survival game is over we will start to see a new order in the market," predicted Mr Okuda.

Returning to the economy, Mr Okuda warned that a rise in unemployment was probable, in spite of the expected recovery. He expected the jobless rate to rise to 8 per cent, within an unspecified period, as companies continued to freeze recruitment and put pressure on surplus staff, estimated at 2m to 3m people, to leave. The government had failed to adjust for this by setting up a sufficiently generous social security system, he said.

"The government has set a threshold of 3 per cent unemployment. When the rate comes close to that or goes over it, the ministry of labour comes to companies to ask them to employ more people. The government is just not prepared for 8 to 10 per cent unemployment," said Mr Okuda.

He expressed fears about the 17 per cent jobless rate among graduates, a consequence of the clampdown on recruitment. "We just do not have a system to take care of that ... it may lead to social unrest," he warned.

---

# Malaysian in bid for Hong Kong publisher

**By Simon Holberton in Hong Kong**

Mr Tiong Hiew King, a Malaysian entrepreneur, plans to offer HK$3.85 a share for Ming Pao Enterprises, publisher of Hong Kong's leading Chinese-language daily newspaper, in a bid which would value the company at HK$1.38bn (US$179m).

The proposed offer follows a proposal to buy-out Mr Yu Pun Hoi, the company's former chairman, who had a 35.9 per cent stake in the newspaper.

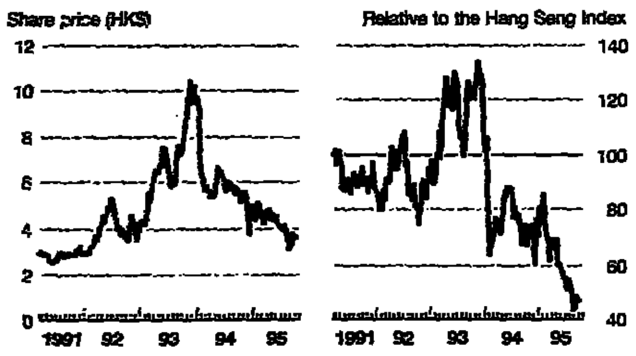
However, the price, which is significantly below market expectations of up to HK$4.50, represents only a 5.5 per cent premium over Monday's closing price of HK$3.65 and underlines the weakened financial state of Ming Pao. Yesterday, following the announcement, the shares closed at HK$3.80. Mr Tiong is buying the newspaper without having to pay any real premium for control.

His offer to acquire Mr Yu's shares is valid until October 10 and conditional upon Mr Yu demonstrating, among other things, that Ming Pao's net asset value was no lower than HK$3.44 a share at the end of June – the latest period for which full management accounts exist. In the company's recent annual report it says its net asset value, at March 31 this year, was HK$3.84 a share.

However, Coopers & Lybrand, qualifying the accounts, raised questions over the recoverability of nearly HK$300m of loans Ming Pao had made to third parties.

If these loans do prove unrecoverable – and Ming Pao's management disputes the suggestion – then net asset value would fall to around HK$2.36 a share.

**Ming Pao Enterprises**



Source: FT Extel

Analysts said yesterday it seemed unlikely that Mr Tiong would have proceeded this far if he had not satisfied himself about the quality of Ming Pao's accounts. "But it is not in the bag yet," said one.

Together with Mr Tiong's existing 10.1 per cent of the company, he will control 46 per cent, forcing a general offer. Hong Kong's takeover code triggers a bid if a shareholder passes 35 per cent of a public company.

In Ming Pao's announcement of the offer, it said Mr Tiong, who wants to keep a 50 per cent interest in the company as a long-term investment – plans to retain Ming Pao's stock exchange listing. This means that at least 25 per cent of the company's share capital has to be outside the dominant shareholder's control.

Achieving this should not be too difficult. Two shareholders, Mr Louis Cha and Mr Oei Hong Leong, who between them own 22.2 per cent, would not be accepting the offer.

In addition, executives of CIM, Mr Yu's private company, would retain their interest in 1 per cent of Ming Pao.

The sale, if it comes off, should go part of the way to helping Mr Yu out of his financial difficulties.

He is also reported to be in discussions to sell an interest in the Chinese Television Network, a wholly-owned CIM venture, broadcasting by satellite in Taiwan.

---

# Tiong Hiew King joins trek to colony's media arena

Mr Tiong Hiew King, 60, is one of Malaysia's wealthiest and most secretive businessmen. His privately-held Rimbunan Hijau group, based in Sarawak, east Malaysia, is believed to be the country's largest timber company with an annual turnover estimated at US$1.5bn.

Mr Tiong's personal wealth is put at M$2bn (US$793m). His family has interests which include property in Singapore, hotels and factories in China, a cattle ranch in Australia and fish processing plants in New Zealand. In recent years, Mr Tiong has been moving more of the family timber business overseas and he now controls the biggest logging company in Papua New Guinea, with concessions of more than 2m hectares – an area more than 20 times the size of Singapore.

Within Malaysia, Mr Tiong has been diversifying into financial services, palm oil plantations and property. He owns the country's largest-selling Chinese daily newspaper and another national Chinese paper. Mr Tiong founded The National, an English language daily in Papua New Guinea.

Mr Tiong and his Rimbunan Hijau group have been accused by environmentalists of destroying large tracts of Sarawak's rain forests. In Papua New Guinea, the group is alleged to have a monopoly on the log export trade. Rimbunan Hijau denies any wrongdoing.

Mr Tiong's move into Hong Kong marks the arrival of yet another powerful Malaysian into the colony's media industry. Two Malaysian Chinese businessmen, Mr Robert Kuok and Mr Khoo Kay Peng, together own more than 50 per cent of the South China Morning Post.

Mr Kuok and Mr Tiong are members of the Foochow Chinese dialect group, descended from emigrants from Fujian province in southern China. The Foochows include some of Asia's most powerful and well-connected corporate figures, including Mr Liem Sioe Liong, the Chinese Indonesian entrepreneur who is regarded as the region's richest businessman.

**Kieran Cooke**

---

**MERCURY ASSET MANAGEMENT GROUP plc**
**London**

is pleased to announce that

**BANK S.G. WARBURG AG**
**Zurich and Geneva**

its wholly-owned Swiss private banking subsidiary
has changed its name to

**MERCURY BANK AG**

MERCURY
BANK AG • BANQUE SA

Mercury Bank AG
Gartenstrasse 26
CH-8039 Zurich

Tel. +41.1.206 24 00
Fax +41.1.206 26 26

Mercury Banque SA
118, rue du Rhône
CH-1211 Geneva 3

Tel. +41.22.786 10 00
Fax +41.22.786 01 42

---

NOTICE OF EARLY REDEMPTION

## HALIFAX BUILDING SOCIETY

**£250,000,000**
**Floating Rate Notes 1997**

NOTICE IS HEREBY GIVEN that, pursuant to Condition 5(c) of its £250,000,000 Floating Rate Notes 1997 (the 'Notes'), Halifax Building Society will redeem all of the Notes at their principal amount on November 6, 1995.

The Notes may be surrendered for redemption at the specified office of any of the Paying Agents, which are as follows:

Morgan Guaranty Trust Company of New York
60 Victoria Embankment
London EC4Y 0JP

Morgan Guaranty Trust Company
of New York
avenue des Arts 35
B-1040 Brussels

Banque Paribas Luxembourg
10A boulevard Royal
L-2093 Luxembourg

Payment in respect of the Notes will be made against presentation and surrender, on or after November 6, 1995, of Notes together with all unmatured Coupons appertaining thereto. Such payment will be made in sterling at the specified office of the Paying Agent in London or, at the option of the holder, at any specified office of any Paying Agent by a sterling cheque drawn on, or by transfer to a sterling account maintained by the payee with, a bank in London.

Interest shall cease to accrue on the Notes from November 6, 1995 and unmatured Coupons relating to the Notes shall become void on such date.

Notes and Coupons will become void unless presented for payment within 12 years and 6 years respectively from the relevant date in accordance with Condition 10.

HALIFAX BUILDING SOCIETY
By: Morgan Guaranty Trust Company
OF NEW YORK *as Principal Paying Agent*

Dated: October 4, 1995

---

**Financial Regulation Report**

**Financial Regulation Report** is a monthly newsletter available on subscription, covering world-wide regulatory developments. It describes new regulations and comments on the implications for the markets concerned.

If you would like further information and a sample copy of **Financial Regulation Report** please contact Simi Bansal at the address given below.

**Financial Regulation Report, FT Financial Publishing, Maple House,**
**149 Tottenham Court Road, London W1P 9LL.**
*Tel: 0171-896 2279 Fax: 0171-896 2274*

FT
FINANCIAL TIMES
*Financial Publishing*

Pearson Professional Ltd. Registered Office Maple House, 149 Tottenham Court Road, London W1P 9LL. Registered in England & Wales No 2970324.

---

*The Republic of Venezuela*
£37,143,500
Front Loaded Interest Reduction
Bonds due 2007
STG Interest Reduction Series

In accordance with the provisions of the Bonds, notice is hereby given that for the Interest Period from September 29, 1995 to March 29, 1996 the Bonds will carry an Interest Rate of 7.9375% per annum. The interest payable on the relevant interest payment date, March 29, 1996 will be £20.05 per £500 principal amount.

By The Chase Manhattan Bank, N.A.
Agent Bank

October 4, 1995

CHASE

---

THE BUCKS
START
HERE.

At your newsagent every Friday.

INVESTORS CHRONICLE
THE CITY INSIDE OUT

---

## THE FIRST MEXICO INCOME FUND N.V.

Incorporated in the Netherlands Antilles

## NOTICE OF DIVIDEND

Shareholders are informed of a dividend of US$ 0.40 per share of Common Stock to holders of record as of September 29, 1995.

The ex-dividend date was September 26, 1995 Shareholders have the option of receiving cash or stock dividends. Please contact your broker for information. The stock dividend will be determined based on the net asset value calculated on October 4, 1995.

The dividend will be paid on October 13, 1995. Payment of the dividend on the bearer shares will be made against surrender of coupon No. 21 detached from the share certificates which for this purpose shall be lodged at:

MEESPIERSON N.V.
*Rokin 55*
1012 KK Amsterdam
The Netherlands

which acts as Paying Agent on behalf of the undersigned.

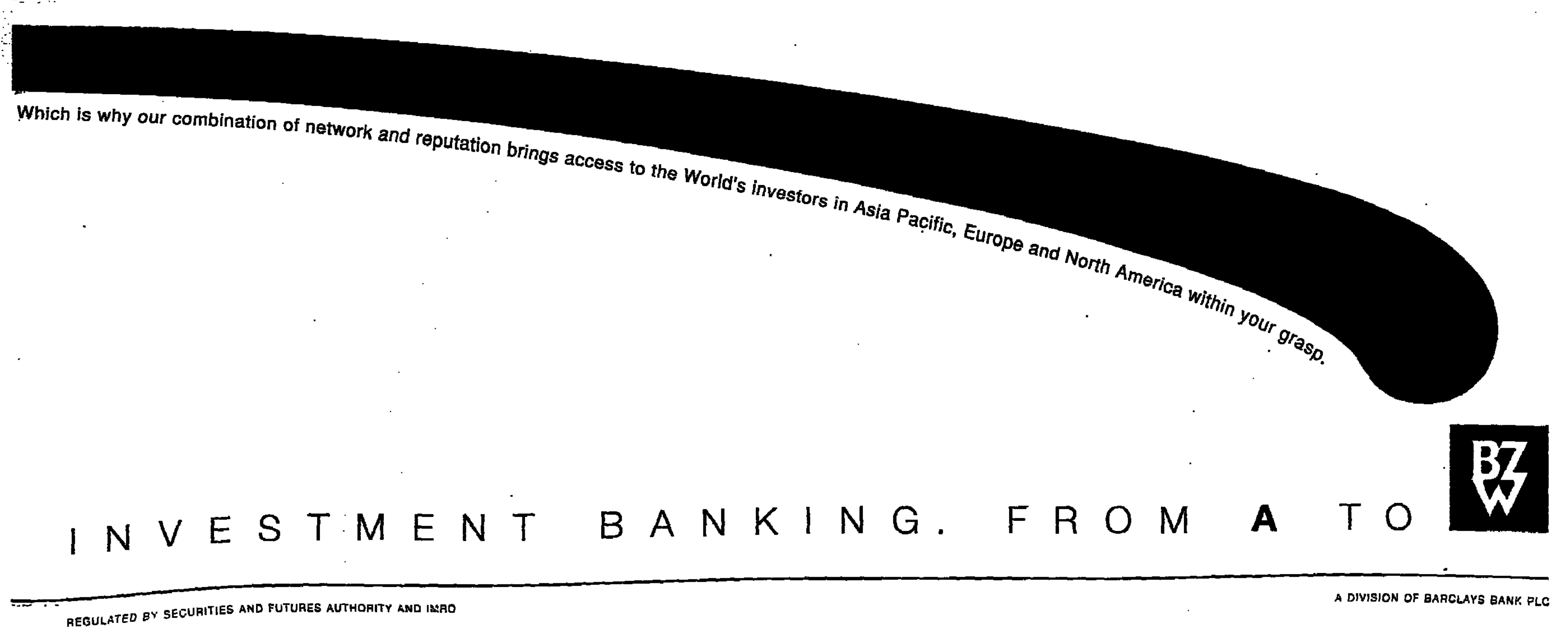
September 29, 1995

MEESPIERSON TRUST (Curaçao) N.V.

---

Signal
➤ Real-time U.S. & internationa
*quotes* on over 90,000 issues
➤ As low as $9/day, Call today:
44 + (0) 171 600 6101

---


Which is why our combination of network and reputation brings access to the World's investors in Asia Pacific, Europe and North America within your grasp.
INVESTMENT BANKING. FROM A TO
BZW

REGULATED BY SECURITIES AND FUTURES AUTHORITY AND IMRO

A DIVISION OF BARCLAYS BANK PLC

## COMPANY NEWS: UK

# Bernsteins take final bow from Granada

**By Raymond Snoddy**

Trevor Humphries

Changes at the top: (left to right) Gerry Robinson, Charles Allen and Alex Bernstein

The Bernsteins are after more than 70 years bowing out of Granada, the media and leisure company they created.

Mr Alex Bernstein, chairman of Granada for the past 16 years, said yesterday he would retire on March 29 next year – his 60th birthday.

He will be replaced by Mr Gerry Robinson, the 47-year-old chief executive who formerly headed Compass, the industrial catering group. Another long-term associate of Mr Robinson, Mr Charles Allen, 38, who runs both Granada's television and leisure businesses, steps up to group chief executive. To ensure a smooth transition, Mr Allen will immediately take on the new role of chief operating officer.

Granada was founded by the present chairman's grandfather, also called Alex Bernstein. He was a builder who built cinemas and went on to run some of them. He died aged 52 and the modern company, including the move into commercial television, was built by his sons Cecil and Sidney who took over in their 20s.

Mr Bernstein said yesterday that he was particularly proud of three things: the high-risk investment in British Satellite Broadcasting which brought rewards following the merger with Sky; the building up of the television rental division by £350m worth of acquisitions; and "finding Gerry Robinson".

The down side included the move into computer maintenance. Although the business is now in profit, problems in the division and uncertainty over satellite television pushed Granada's share price to a low of 129p on October 1 1990. This led to what many saw as the sacrifice of chief executive Mr Derek Lewis, now director of the Prison Service, in order to push through a rights issue. The £163m rights issue to reduce debt came in May 1991, at same time as Mr Lewis resigned and the group sold bingo clubs to Bass for £147m. By the middle of 1991 the share price had started to climb and Mr Robinson was appointed in October.

Mr Bernstein said: "When I became chairman, Granada was a £200m company. Now it is nearly a £4bn company." He is now looking for a second career, probably in the art or theatre world.

# Aran hints at alliance with big oil company

**By Tim Burt**

Aran Energy, the Irish oil exploration and production company, yesterday hinted it could enter a strategic alliance with one of the oil "majors" if it successfully *defends* itself against a hostile takeover by Atlantic Richfield Corp (Arco), the US petroleum group.

The Dublin-based company, which has rejected Arco's £161m ($249.5m) bid, said several other oil companies had shown interest and, although no discussions have yet taken place, it would consider such a tie-up. "A strategic alliance would make more sense to us than being grabbed by someone who wants to pay only for existing assets and nothing for our exploration potential," said Mr Michael Whelan, chairman.

While he refused to rule out another company taking an equity stake through an alliance, Mr Whelan added that Aran hoped to remain an independent company.

Aran already has close ties with British Petroleum and Amerada Hess – its exploration partners in the Schiehallion, one of the UK's largest unexploited oil fields – and last week signed a joint venture with Statoil, the Norwegian state oil company, to exploit the Connemara field off the west coast of Ireland.

Mr Whelan described prospects in these fields and in the Atlantic margin as the most exciting in the world, and said they were far more valuable than suggested by Arco's 61.4p a share offer.

An independent valuation commissioned by Aran said yesterday it was worth 106p a share, valuing the company at £290m. SSI, the US oil consultants which prepared the valuation, added that more than a quarter of Aran's undrilled prospects could contain about 140m barrels of oil.

The claims were dismissed by Arco, which said: "Aran's independent valuation strains credibility and should be dismissed." Arco has until next Tuesday to decided whether to increase the offer or declare its existing bid final.

### Canary Wharf purchase for £800m may lead to more development

# Reichmann reclaims his baby

**By Simon London**
**Property Correspondent**

It is customary in any property auction for the unsuccessful bidders to maintain that the winner has paid too much. This was the reaction of most property investors to the £800m acquisition of Canary Wharf, the large office complex in London's docklands, by a consortium led by Mr Paul Reichmann, the Canadian who masterminded its development in the late 1980s.

"Hats off to Paul Reichmann but it is difficult to see how they will make any sort of return on their investment," said one UK property fund manager.

The Reichmann consortium – known as the International Property Corporation – is paying £585m to the group of eleven commercial banks led by Lloyds which have owned Canary Wharf since it came out of administration in 1993.

This represents close to full repayment of construction loans which were restructured when the administration came to an end.

In addition, IPC is assuming £187m of debt provided by the European Investment Bank, the public sector development bank, which will be rolled into a new long-term facility.

The EIB's decision to leave its loans in place, taken in August, was critical in securing a deal.

If the EIB had demanded full repayment, the consortium would have been unable to offer the commercial banks anywhere near such attractive terms.

On this basis, the IPC investors – including Prince al-Waleed bin Talal bin Abdulaziz, the Saudi Arabian investor, Mr Larry Tisch, the chairman of CBS, the US media group, and funds managed by Mr Michael Price – have paid about £772m up front.

They will also have to provide working capital over the next two or three years, since the rents now being paid by Canary Wharf's tenants are not sufficient to cover both operating and interest costs.

For an all-in cost of perhaps £900m to £1bn, then, the consortium is buying 4.5m sq ft of office space which has already been built and land with planning permission for another 8m sq ft.

At Canary Wharf's last year end – on October 31 1994 – these assets were valued at £500m.

On these bald sums alone it would appear that the consortium has paid a substantial premium to the value of the assets.

But the valuation of £500m carried out last year for the banks is not seen relevant to new owners prepared to build further phases of Canary Wharf.

In particular, the value of the development land, which was regarded as virtually worthless last year, could rise rapidly following the planned opening in 1998 of an extension to London Underground's Jubilee Line, which will improve Canary Wharf's transport connections.

The investors appear to be split over the timing of further phases of Canary Wharf. Mr Reichmann, who made his name as a developer before the collapse in 1992 of Olympia & York, the Reichmann family company, is more bullish about the prospects than some of his partners.

One adviser to the consortium commented: "Let us be quite clear: there are no plans to build speculatively at Canary Wharf. If one of the investors thinks the time is right they will have to sell the idea to the others."

If the deal is closed in December, as planned, the immediate priority for Canary Wharf's new owners will be to fill the 1m sq ft of office space which is still vacant.

The signs are that the management team at Canary Wharf, led by Sir Peter Levene, the prime minister's efficiency adviser, will be left in place. Mr Reichmann, who will be president of IPC, is not expected to move to London from Toronto, where Reichmann International is based.

But despite the "business as usual" message coming from Canary Wharf yesterday, the deal between the banks and IPC and the presence of Mr Reichmann brings closer the development of further phases.

Whatever their individual opinions, the IPC investors certainly have the financial muscle to move the project forward if they decide the time is right.

Most important of all, with Mr Reichmann at the helm Canary Wharf has a champion with a burning desire to see the development established as London's third business centre.

# Letter 'misrepresented' Alliance drilling rights

**By David Blackwell**

Alliance Resources, the US-based oil and gas exploration and production company, yesterday accused its former chief executive of using a forged letter that misrepresented the group's rights in a Louisiana oil field.

According to yesterday's statement to the London Stock Exchange, a letter which extended the group's rights to drill in undeveloped acreage on its Valentine field to June was a forgery. The company claims that Mr John O'Brien, who left the board last month, also suppressed a formal notice of forfeiture from the landlord dated March 16.

The notice was not discovered by the board until August. The loss of the estimated oil and gas reserves has reduced estimated income from the field to less than $1m a year. This compares with the $60.4m published in the listing particulars in April, when the group raised £7.2m at 6p a share.

These claims are contested by Mr O'Brien. He said yesterday that if the lease had been forfeited "this would have become readily apparent at a very early stage in the verification process for the prospectus document."

The shares were suspended at 4½p last month, and the group announced that it had discovered "material misrepresentations" and "financial irregularities" during an inquiry which followed the departure of Mr O'Brien. Yesterday it said its share suspension had been extended to the end of the month, when it would report its accounts for the year to April.

The latest discoveries have been reported to the Serious Fraud Office, which the group said was continuing its investigations.

The group has started High Court proceedings against Mr O'Brien for damages for fraudulent misrepresentation. Mr O'Brien said yesterday he would be vigorously defending the action and pursuing counter claims for damages.

# H&C plans restructure as profit forecasts downgraded

**By Jane Martinson**

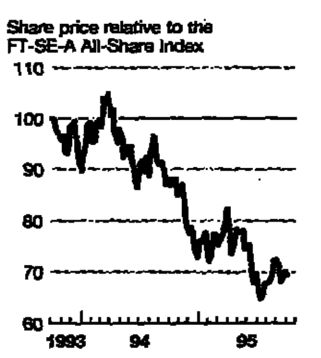
Harrisons & Crosfield yesterday joined a number of companies complaining about difficult conditions in the construction sector when it announced a £3.5m ($5.42m) restructuring plan and its intention to cut 500 of its 4,300 staff.

Shares in the conglomerate fell 6p to 147p as a number of analysts downgraded their full-year profit forecasts.

July and August sales in Harcros, the group's UK building supplies distributor, had been down on last year, said Mr Bill Turcan, Harrisons' chief executive, with no sign of improvement since.

"We are suffering from the same conditions as the rest of the industry, with a downturn since April," he said. Travis Perkins was the latest builders' merchant to complain of difficulties when it reported lower interim profits last month.

**Harrisons & Crosfield**



Source: FT Extel

In August, Harrisons announced a £1.5m provision for Harcros and closed three offices. The current restructuring would focus on the company's timber processing division, said Mr Turcan. Lossmaking branches would be closed across the company's six regions.

The measures are aimed at bring Harcros's 4 per cent return on sales up to the industry standard of 7 per cent. "A decision has been taken to make better use of facilities," said Mr Turcan. A new Harcros managing director was appointed at the beginning of the year.

Mr Turcan added that costs had already fallen in the second half and that total annual savings of £7m were expected from the beginning of 1996.

Yesterday both Hoare Govett and Smith New Court cut full-year profit forecasts by £4m-£6m to £120m.

# Manchester United well ahead

**By Tim Burt**

Manchester United, Britain's most profitable football club, yesterday announced a near doubling in pre-tax profits following a sharp increase in television revenues and transfer receipts.

The club, which has reached the FA Cup final and qualified for European competition for the past two years, saw pre-tax profits rise from £10.8m to £20.01m ($31m).

Mr Martin Edwards, chief executive, said the figures were flattered by a £3.7m gain on the sale of players such as Mark Hughes, Paul Ince and Dion Dublin.

Television coverage, dominated by the Premier League's contract with BSkyB, was said to have contributed a further £2.5m.

That helped lift underlying profits from £11.5m to £16.3m on higher turnover of £60.6m (£43.8m) in the year to July 31.

Shares in the club, which was knocked out of the Uefa Cup last week, fell 7p to 204p after Mr Edwards warned that profits this year were unlikely to be sustained at current levels.

He cited spending on new players and reduced gate receipts at Old Trafford, where capacity has been reduced during redevelopemnt of the North Stand, as factors which could dampen profits.

Nevertheless, the impact should be offset by increased contributions from sponsorship, royalties and merchandising.

# Wagon Ind makes £4m disposal

Wagon Industrial Holdings has sold the trade and assets of Plated Strip (International) for £4.25m ($6.58m) in cash to Hille and Muller, the German steel processing group.

PSI, based at Tyseley, Birmingham, had a turnover of £4.2m in the year to March 31 and made a profit before tax of £560,000. It produces a variety of surface finishes on steel and other materials employing continuous coating processes. Money from the deal would develop group activities.

# Pilkington to split German glass offshoot

**By Andrew Taylor,**
**Construction Correspondent**

Pilkington is to spilt its German glass subsidiary into two separately run businesses.

Flachglas which accounts for about a third of Pilkington's annual turnover of £2.64bn ($4.09bn) is to be divided into a supplier of glass for the building industry and a separate business manufacturing glass for vehicle makers.

The British group said the reorganisation based on product lines would not result in large exceptional costs although there would be a small administrative saving.

The move follows the reorganisation three years ago of Pilkington's European operations into five separate product based divisions.

Mr Brian Young, chief executive of Pilkington Europe, said the separation of the German businesses "is an important part of our programme to develop pan-European operations. It reflects our determination to reduce costs and bring greater focus to business lines."

## RESULTS

| | | Turnover (£m) | | Pre-tax profit (£m) | | EPS (p) | | Dividends | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Current payment (p) | Date of payment | Corresponding dividend | Total for year | Total last year |
| Arcadian Intl | Period to July 6 ☐ | 9.4 | (5.58) | 0.221 | (0.007) | 0.1† | (nil) | 0.1 | Nov 6 | nil | - | 0.8 |
| Biocompatibles Intl | 6 mths to June 30 | 1.65 | (0.415) | 3.36L | (1.05L) | 8.9L | (3.19L) | - | - | - | - | - |
| Bloomsbury Pub | 6 mths to June 30 | 3.08 | (3.13) | 0.39L | (0.48L) | 4.55L | (6.02L) | 0.68 | Nov 28 | - | - | 2.84 |
| Halstead (James) | Yr to June 30 | 72.7 | (69.1) | 10.3 | (9.9) | 22.75 | (22.5) | 5.5 | Dec 1 | 4.75 | 8.5 | 7.5 |
| Harmony Property | Yr to Mar 31 | 5.93 | (9.47) | 1.95L♠ | (0.455L) | 1.23L | (0.46L) | - | - | - | - | - |
| Ibstock | 6 mths to June 30 | 122.2 | (97) | 14 | (4.36) | 3.78† | (1.13) | 0.75 | Dec 1 | 0.5 | - | 1.5 |
| Intermediate Capital | 6 mths to July 31♦ | 17.6■ | (14.9■) | 10.5 | (9.7) | 14.9† | (13.8) | 4.3 | Oct 31 | - | - | 7.75 |
| Jones ♣ | 6 mths to June 30 | 43.2 | (43.6) | 1.49♥ | (1.72) | 11.1 | (11.7) | 4 | Oct 26 | 4 | - | 13 |
| Manchester Utd | Yr to July 31 | 60.6 | (43.8) | 20 | (10.8) | 16.8 | (7.7) | 3.1 | Dec 12 | 2.9 | 4.5 | 4.2 |
| Middlesex § | 6 mths to June 30 | 17.4 | (12) | 2.45 | (1.57) | 0.3 | (0.23) | nil | - | nil | nil | 0.05 |
| Moorepay Φ | | | | | | | | 1.2# | Oct 23 | - | - | 3.2 |
| OS | 6 mths to July 28 | 24.3 | (28.7) | 0.743L | (2.11) | 1.28L | (3.43) | 1.56 | Dec 5 | 1.56 | - | 5.19 |
| Silentnight | 6 mths to July 29 | 85.2 | (82.5) | 3.72 | (4.11) | 5.22 | (5.84) | 2.75 | Jan 2 | 2.75 | - | 8 |

| Investment Trusts | | NAV (p) | | Attributable Earnings (£m) | | EPS (p) | | Current payment (p) | Date of payment | Corresponding dividend | Total for year | Total last year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fleming Overseas | Yr to June 30 ☆ | 346.6 | (334.6) | 7.54 | (6.25) | 5.67 | (4.7) | 3.1 | Oct 27 | 2.75 | 4.6 | 4.25 |
| Second Market | 6 mths to June 30 | 544.5 | (486.4) | 0.246 | (0.143) | 2.303 | (1.344) | - | - | - | - | 4.3 |

Dividends shown net. Earnings shown basic. Figures in brackets are for corresponding period. †On increased capital. §USM stock. ☐Comparatives for 6 mths to June 30. ♦Comparatives pro forma. ■Total income. ♥Includes exceptional credit. ♠Includes exceptional charge. ♣Irish currency. ΦAim stock. #Third interim; makes 3p (2.25p) to date. ☆Restated.

as a serious business school,
we encourage you to read the fine print....

We're proud of it. It lists the 124 leading companies who take an active part in IMD - our Partners and Business Associates. This unique relationship produces an osmosis that puts us at the forefront of international executive development: together, we identify the current needs of business, carry out research projects, and design specific material for our programs. There are 21 public programs altogether, ranging in length from three days to ten weeks, and covering the needs of executives at every stage in their career. And there's no bias towards any one business system or culture: faculty and participants come from more than 100 countries making IMD overall the most international business school in the world.

....here's what it means

Two examples of IMD programs that meet the real, practical needs defined by our Partners and Business Associate companies:

Seminar for Senior Executives
Experienced senior executives learn most effectively in two ways: using material that are firmly rooted in actual business situations, and by discussing the experiences of other people with similar responsibilities. This program brings together senior executives from around the world for 18 days of intensive debate and professional input on the major challenges facing top general managers today and tomorrow.

Each of the senior executive's key responsibilities is addressed:
- leading the company's strategic decision-making,
- rethinking the principal management processes,
- developing and managing people,
- recognizing the global forces that will shape tomorrow's business environment.

The program focuses to a unique degree on applying learning to problems in participants' own companies. To ensure a peer group of senior people, it is only open to international managers at Executive Committee level or with multi-business, or cross-functional responsibilities.

Program for Executive Development
This program has one goal: to prepare executives for future senior general-management responsibilities. Specifically, the aim is to provide them with the knowledge required to direct specialists of different functions, the skills necessary to select priorities for a business unit in the context of the corporate strategy, and the ability to implement those priorities through people.

The program is given in two five-week modules. Module One is about Managing Across Functions & Processes: focusing on the finance, marketing, and operations functions and the cash, information, and goods flows. Module Two is about Managing Corporate Complexity: putting business-unit strategy into the context of corporate strategy and country attractiveness, and examining the CEO's role as a leader – a role we assume these managers will eventually take on.

IMD
INTERNATIONAL LAUSANNE • SWITZERLAND
IMD-INTERNATIONAL INSTITUTE FOR MANAGEMENT DEVELOPMENT
Chemin de Bellerive 23, P.O. Box 915, CH-1001 LAUSANNE, Switzerland
If you want to learn more about what a business school working in partnership with industry can offer you in EXECUTIVE DEVELOPMENT PROGRAMS, please call ..41 21/618 03 42 or fax ..41 21/618 07 15. E-Mail: INFO@IMD.CH Internet address: http://www.imd.ch/ and for information on the IMD MBA, please call ..41 21/618 02 98 or fax ..41 21/618 07 07

The Financial Times plans to publish a survey on
INDIA
on Monday, October 30

More senior European executives who are personally involved in strategic decisions about their organisation's international operations read the FT than any other European business publication.
If you wish to communicate your message to this influential audience by advertising in this Survey, contact:

Patricia Olefs in London
Tel: (0171) 873-3230
Fax: (0171) 873-3595
Marzban Patel in Bombay
Tel: (22) 2048890
Fax: (22) 2875718

FT Surveys

Finally an investment with everything to win and nothing to lose

Jyske Bank hereby offers you an index related deposit account where your investment is placed for 2 years, after which you will receive your initial deposit plus a supplement of 90% of the increase in the FT-SE 100 share index (Financial Times Stock Exchange index of the leading 100 shares) during the period.
With a low minimum entry level of GBP 7,500 you receive the following advantages:

- A guarantee that you will receive your initial deposit back, even if the FT-SE 100 falls below the level at the time of the opening of the account.
- Potential gains, whilst avoiding the normal costs of share holding. The offer is available between the 2nd and 31st October 1995.

To receive further details and an account opening form, simply return the coupon by mail or fax or call us. UK residents may use Freephone 0800 378415.

JYSKE BANK
This advertisement has been approved by Jyske Bank London Branch (Regulated by SFA)
This investment provided to you is not covered by the rules and regulations made for the protection of investors in the U.K.
Jyske Bank, Private Banking (International). Vesterbrogade 9, DK-1780 Copenhagen. Tel.: +45 3378 7801. Fax: +45 3378 7811
Jyske Bank (Gibraltar) Ltd. 76 Main Street, P.O. Box 143, Gibraltar. Tel.: +350 72 782. Fax: +350 79 463
Jyske Bank (Schweiz) AG, Wasserwerkstraße 12, Postfach 296, CH-8035 Zürich. Tel.: +41 1 362 7373. Fax. +41 1 362 5150
Jyske Bank (London) 10-12 Alie Street. GB-London E1 8DE. Tel.: +44 171 264 7700. Fax +44 171 264 7717

☐ Please send me more information on the Stock-Index Account.
☐ Please send me information on the No. 1 Account with VISA card.
Correspondance in:
☐ English ☐ German ☐ Danish
First- and surname
Address
Postal Code
City
Telephone
811-403

هكذا من الأصل

هكذا من الأجل

## COMMODITIES AND AGRICULTURE

# W. European aluminium imports reach 2m tonnes

**Kenneth Gooding**
**Mining Correspondent**

Imports of primary aluminium to Western Europe last year reached 2m tonnes for the first time as demand jumped by nearly 13 per cent and production fell, the European Aluminium Association reported yesterday.

Mr Fokko van Duyne, chairman, indicated that demand would increase by another 1m tonnes by the year 2000 and much of this would be provided by further imports.

He also gave a warning that the ability of the European primary aluminium producers to compete effectively with their competitors elsewhere in the world was in danger of being eroded by some European Union policies.

Environmental costs were of particular concern. He said the industry was faced with "a patchwork of national and even local eco-taxes" and "in most cases there is no clear link with environmental goals, the usual justification for creating such taxes."

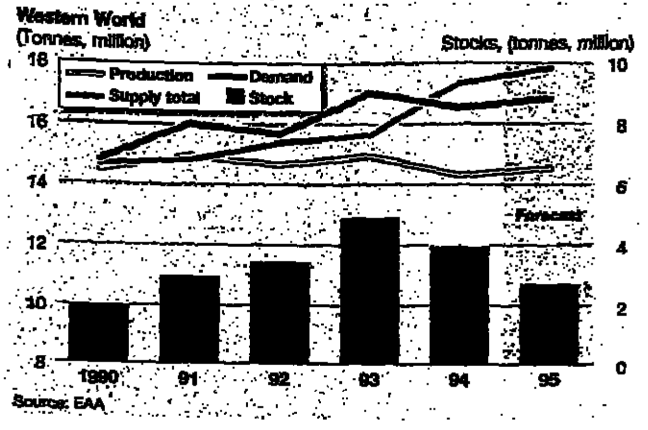
"This will be to the detriment of consumers, who will lose spending power, and it will cost industry not only money, but probably loss of market shares and in the worst case, jobs."

According to the association, Western Europe produced 3.14m tonnes of primary aluminium last year, a fall of 5.1 per cent from the 1993 level, while consumption was up by 12.9 per cent to 5.14m tonnes.

Mr van Duyne said primary aluminium consumption could be expected to show a healthy annual growth rate of 2.5 to 3 per cent to the year 2000. West European production capacity was not likely to increase in that time and imports would have to fill most of the gap between supply and demand.

Imports from Russia are estimated to have accounted for 1.1m tonnes of West European consumption last year, or more than half of total imports.

**Aluminium supply and demand**



Source: EAA

# Cobalt surplus and lower prices are forecast for the year 2000

**By Kenneth Gooding,**
**Mining Correspondent**

Warnings that cobalt, a metal used in superalloys for the aerospace and chemical engineering industries, will be in over-supply by the year 2000, causing a steep drop in prices and the closure of high-cost production, were given at the Cobalt '95 conference in Washington last week.

Mr Luc Gellens, manager of business development for Union Minière cobalt and nickel products of Belgium, pointed out that, if all the potential projects went ahead, production of primary cobalt would be nearly three times last year's level of 18,000 tonnes at 50,000 tonnes. But "market forces" would ensure a gradual increase of primary cobalt to 30,000 tonnes by that time.

Added to that would be secondary (or scrap) cobalt, adding between 3,000 and 4,000 tonnes a year, and sales from the US strategic stockpile, which were likely to remain about 2,000 tonnes annually for ten years.

"Prices in the long term will come down as the potential for oversupply is real," said Mr Gellens.

"This is particularly worrysome for some complex cobalt deposits and recovery methods and for continued growth in recycling. The projects on the high end of the cost curve will be under a lot of pressure."

**LME WAREHOUSE STOCKS**
(As at Monday's close)
tonnes

| | | |
|---|---|---|
| Aluminium | +580 | to 633,725 |
| Aluminium alloy | +2,580 | to 46,440 |
| Copper | +725 | to 178,825 |
| Lead | -2,850 | to 207,825 |
| Nickel | -222 | to 60,324 |
| Zinc | -3,125 | to 741,800 |
| Tin | -115 | to 15,575 |

# Making the Pacific safe for dolphins

## Leslie Crawford on the Latin America bid to persuade the US to lift its tuna embargo

Six Latin American governments are meeting in Panama City this week to adopt a new code of conduct for their tuna fishing fleets that would dramatically reduce the number of dolphins killed in their nets and hopefully persuade the US Congress to lift a ban against tuna imports from their countries.

The agreement, which is expected to mature into a fully-fledged international treaty later this year, is being upheld as a model for how industries, governments and environmental groups should work together to solve problems that transcend their limited jurisdictions.

The outcry against the tuna industry began in the mid-1980s, when environmental activists took jobs on tuna boats and secretly filmed the slaughter of hundreds of thousands of dolphins which were being trapped in the mile-long nets used to encircle a tuna catch. For some unknown reason, dolphins and the prized yellow-fin tuna swim together in large schools in the eastern Pacific Ocean. Their natural affinity simplified tuna fishing, as seiners had only to cast their nets over surface-swimming dolphins to secure a large haul of tuna underneath.

Intense lobbying from environmental groups led the US Congress to pass a Marine Mammals Protection Act in 1988, and to decree an embargo in 1990 against tuna imports from all countries that trapped dolphins in the process of fishing for tuna. Leading US canneries, including Bumble Bee, Starkist and Chicken of the Sea, adopted "dolphin-safe" labels.

The embargo dealt a devastating blow to countries like Mexico, which had built the largest tuna fishing fleet in the eastern Pacific behind its 200-mile economic exclusion zone. The US also banned imports from Colombia, Venezuela, Costa Rica, Ecuador, Panama, Italy, Japan and the small Pacific republic of Vanuatu.

Mexico, which hauls in 40 per cent of the tuna catch in the eastern Pacific, saw its exports drop from 83,500 tonnes in 1989, the year before the ban, to a mere 15,000 tonnes last year. Tuna boats were sold or adopted foreign flags of convenience. Canneries closed down, with the loss of 4,000 jobs. The tuna port of Ensenada, on the coast of the Baja California peninsula, sunk into a deep recession.

The Marine Mammals Protection Act drove most US tuna boats to the western Pacific, where a different species of tuna, which does not swim with dolphins, is prevalent. The unilateral US trade sanction, however, became the catalyst for radical changes in the way eastern Pacific fleets fished for tuna. In 1992, 10 countries adopted an international dolphin conservation programme, known as the La Jolla Agreement, with the aim of reducing dolphin mortalities to insignificant levels by 1999.

Fishing fleets agreed to take observers on board to monitor accidental dolphin deaths. Environmental groups, working together with tuna boats, designed new fishing techniques and boat manoeuvres that allowed dolphins to escape the encircling nets.

As a result, dolphin deaths in the eastern Pacific tuna fisheries declined from more than 100,000 in 1989 to 4,095 last year. The dolphin population, estimated at 9.5m, is now believed to be stable or increasing.

"What has been accomplished by fishermen and fisheries managers, first in the US and then internationally, is nothing short of a phenomenal environmental success story," Mr David Colson, a deputy assistant secretary at the US State Department, told a Congressional hearing in June. Mr Colson recommended Congress lift the embargoes against countries which were complying with the dolphin conservation programme.

The continued US tuna embargo has been an irritant in international trading forums. Mexico and other Latin American nations challenged the US embargo twice before the General Agreement on Tariffs and Trade, obtaining two opinions in their favour. It has also been one of several awkward disputes within the North American Free Trade Agreement, which in turn has made it harder to solve other trade and environment conflicts.

In Panama City this week, Mexico, Colombia, Costa Rica, Ecuador, Panama and Venezuela plan to make it more difficult for the US Congress to maintain the embargo.

The six countries are expected to issue a joint declaration in support of an international treaty that would make permanent the voluntary dolphin-friendly fishing techniques and mortality caps established in the 1992 La Jolla agreement, which expires in 1999. The new agreement would also impose more stringent annual limits on dolphin deaths (5,000 a year), with specific limits for species that are considered to be depleted.

The new agreement has the backing of mainstream environmental groups, including Greenpeace and the World Wildlife Fund (WWF).

"The progress made by Mexican and other national fleets in reducing dolphin mortality is undeniable and they deserve credit for it," Mr David Schorr, a WWF spokesman, said yesterday. He added: "If there were a strong, binding, permanent international regime that guaranteed the continued protection of dolphins and their eco-system, it would then be appropriate for the US to lift its embargo against tuna imports."

Not all environmental groups, however, support the new agreement. Mr David Phillips, a veteran of the campaign against dolphin killings in the 1980s, fears dolphin deaths could rise and criticises what he calls the agreement's fraudulent redefinition of "dolphin-safe" products. He has testified before Congress against lifting the embargo.

"In the US and the UK, the dolphin-safe label means that no nets are set upon dolphins, whereas under the new definition, dolphins could be encircled again so long as none of them were observed to have been killed," Mr Phillips says.

Even the environmental groups which support the new agreement under discussion in Panama, however, oppose draft legislation presently before the US Congress that would weaken the Marine Mammals Protection Act.

They charge that the draft amendment presented by Republican Congressman Randy Cunningham would so weaken regulation that dolphin killings might rise tenfold from their present low levels.

Most environmental groups hope Mr Cunningham's bill will undergo extensive changes so as to safeguard the protection of marine mammals while allowing the embargo against Latin American tuna imports to be lifted.

If not, they fear that all the multilateral effort that has gone into adopting more dolphin-friendly tuna fishing methods will go to waste.

# CAP reform 'must not delay' E.European accession

**By Alison Maitland**

Reform of the Common Agricultural Policy must not hold up the accession of east European countries to the European Union, a UK government minister said yesterday.

Britain has been lobbying strongly for further radical reform of the CAP and in July published a report by a group of experts calling for an end to price support, production controls and export subsidies.

On the eve of a visit to Poland, Mr Douglas Hogg, agriculture minister, acknowledged that "there's no agreement within the EU council (of ministers) for the kind of reforms advanced by the report we produced in July."

He said he would like to see substantial changes to agricultural policy before enlargement because the costs of not doing so – which some estimates put at £17bn – would be insupportable.

"But I'm not saying we should postpone enlargement until we get reform of the CAP," he said. "Enlargement itself will create such pressure for change that it will have to happen ... my priority is enlargement, not reform."

Mr Hogg said change was likely to take place only gradually because of the strength of farming lobbies. He maintained there was "a mismatch between the private views of many ministers in the (agriculture) council and the political positions they adopt."

During his three-day visit, the British minister will seek the Poles' views on the future of the CAP and whether they should adopt price support for their farmers or aim at a more market-oriented policy.

East European countries should be granted greater access to the EU market, he said. "Political reform can't be sustained in the absence of economic progress."

## COMMODITIES PRICES

### BASE METALS

**LONDON METAL EXCHANGE**
(Prices from Amalgamated Metal Trading)

■ ALUMINIUM, 99.7 PURITY ($ per tonne)

| | Cash | 3 mths |
|---|---|---|
| Close | 1741-42 | 1774-75 |
| Previous | 1749.5-50.5 | 1782-83 |
| High/low | 1735.5 | 1776/1766 |
| AM Official | 1734-35 | 1767-68 |
| Kerb close | | 1775-6 |
| Open int. | 202,753 | |
| Total daily turnover | 51,103 | |

■ ALUMINIUM ALLOY ($ per tonne)

| | Cash | 3 mths |
|---|---|---|
| Close | 1515-25 | 1555-65 |
| Previous | 1525-35 | 1565-75 |
| High/low | | 1555/1540 |
| AM Official | 1505-10 | 1547-50 |
| Kerb close | | 1555-60 |
| Open int. | 3,095 | |
| Total daily turnover | 1,859 | |

■ LEAD ($ per tonne)

| | Cash | 3 mths |
|---|---|---|
| Close | 595.5-96.5 | 610-11 |
| Previous | 597.5-98.5 | 612-13 |
| High/low | 596/595 | 613/607 |
| AM Official | 595.5-6.0 | 610-11 |
| Kerb close | | 609-10 |
| Open int. | 31,637 | |
| Total daily turnover | 6,305 | |

■ NICKEL ($ per tonne)

| | Cash | 3 mths |
|---|---|---|
| Close | 7895-905 | 8025-35 |
| Previous | 7955-65 | 8085-95 |
| High/low | | 8040/7970 |
| AM Official | 7840-50 | 7970-80 |
| Kerb close | | 88040-50 |
| Open int. | 43,375 | |
| Total daily turnover | 16,955 | |

■ TIN ($ per tonne)

| | Cash | 3 mths |
|---|---|---|
| Close | 6250-60 | 6270-80 |
| Previous | 6265-75 | 6290-300 |
| High/low | 6225 | 6290/6190 |
| AM Official | 6225-30 | 6245-50 |
| Kerb close | | 6280-300 |
| Open int. | 19,847 | |
| Total daily turnover | 5,338 | |

■ ZINC, special high grade ($ per tonne)

| | Cash | 3 mths |
|---|---|---|
| Close | 1003-4 | 1026-27 |
| Previous | 1001.5-2.5 | 1024.5-25.0 |
| High/low | | 1027/1020 |
| AM Official | 989-9.5 | 1021.5-22.0 |
| Kerb close | | 1025-6 |
| Open int. | 78,682 | |
| Total daily turnover | 13,835 | |

■ COPPER, grade A ($ per tonne)

| | Cash | 3 mths |
|---|---|---|
| Close | 2882-86 | 2857-58 |
| Previous | 2903-7 | 2873-74 |
| High/low | 2889/2887 | 2870/2848 |
| AM Official | 2885-86 | 2864.5-65.0 |
| Kerb close | | 2849-50 |
| Open int. | 185,713 | |
| Total daily turnover | 59,698 | |

■ LME AM Official £/$ rate: 1.5813
LME Closing £/$ rate: 1.5795

Spot:1.5813 3 mths:1.5784 6 mths:1.5752 9 mths:1.5724

■ HIGH GRADE COPPER (COMEX)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Oct | 130.60 | -0.90 | 131.70 | 130.25 | 1,405 | 519 |
| Nov | 129.95 | -0.80 | 130.60 | 129.50 | 1,160 | 170 |
| Dec | 129.45 | -0.60 | 130.60 | 128.80 | 17,826 | 5,618 |
| Jan | 128.40 | -0.45 | 128.50 | 128.40 | 470 | 28 |
| Feb | 127.30 | -0.30 | 128.50 | 126.00 | 406 | 1 |
| Mar | 126.15 | -0.20 | 127.10 | 126.00 | 4,372 | 156 |
| Total | | | | | 31,720 | 8,525 |

### PRECIOUS METALS

■ LONDON BULLION MARKET
(Prices supplied by N M Rothschild)

| Gold(Troy oz) | $ price | £ equiv | SFr equiv |
|---|---|---|---|
| Close | 382.10-382.50 | | |
| Opening | 381.90-382.30 | | |
| Morning fix | 382.25 | 240.258 | 439.511 |
| Afternoon fix | 382.20 | 241.364 | 442.626 |
| Day's High | 382.30-382.70 | | |
| Day's Low | 381.80-382.20 | | |
| Previous close | 382.00-382.40 | | |

Loco Ldn Mean Gold Lending Rates (Vs US$)

| | | | |
|---|---|---|---|
| 1 month | 4.11 | 6 months | 4.04 |
| 2 months | 4.08 | 12 months | 4.05 |
| 3 months | 4.03 | | |

| | p/troy oz. | US cts equiv. |
|---|---|---|
| Silver Fix | 335.20 | 534.00 |
| Spot | 338.10 | 537.55 |
| 3 months | 341.45 | 541.90 |
| 6 months | 349.25 | 552.30 |
| 1 year | | |

| Gold Coins | $ price | £ equiv. |
|---|---|---|
| Krugerrand | 381.5-384.5 | 240-242 |
| Maple Leaf | 392.95-395.40 | |
| New Sovereign | 87-90 | 55-57 |

### Precious Metals continued

■ GOLD COMEX (100 Troy oz.; $/troy oz.)

| | Sett price | Day's change | High | Low | Open int | Vol. |
|---|---|---|---|---|---|---|
| Oct | 382.7 | +0.5 | 383.1 | 382.6 | 1,478 | 230 |
| Dec | 383.8 | +0.4 | - | - | 100,794 | 25,531 |
| Feb | 385.2 | +0.4 | 385.5 | 384.8 | 22,251 | 615 |
| Apr | 387.5 | +0.4 | 387.7 | 387.1 | 9,562 | 1,323 |
| Jun | 389.9 | +0.4 | 390.1 | 389.9 | 12,935 | 536 |
| Sep | 392.6 | +0.4 | - | - | 1,796 | 532 |
| Total | | | | | 180,655 | 29,075 |

■ PLATINUM NYMEX (50 Troy oz.; $/troy oz.)

| | Sett price | Day's change | High | Low | Open int | Vol. |
|---|---|---|---|---|---|---|
| Oct | 414.1 | +3.6 | 415.0 | 412.0 | 1,578 | 272 |
| Jan | 413.6 | +3.6 | 414.0 | 409.0 | 19,615 | 7,295 |
| Apr | 414.1 | +3.8 | 414.5 | 413.0 | 1,425 | 135 |
| Jul | 415.1 | +3.6 | - | - | 1,381 | 5 |
| Oct | 415.1 | +3.6 | - | - | 31 | - |
| Total | | | | | 24,033 | 7,687 |

■ PALLADIUM NYMEX (100 Troy oz.; $/troy oz.)

| | Sett price | Day's change | High | Low | Open int | Vol. |
|---|---|---|---|---|---|---|
| Dec | 140.55 | -0.30 | 141.40 | 140.10 | 5,236 | 474 |
| Mar | 141.70 | -0.30 | 142.50 | 141.70 | 803 | 7 |
| Jun | 142.95 | -0.30 | - | - | 5 | - |
| Total | | | | | 6,044 | 481 |

■ SILVER COMEX (100 Troy oz.; Cents/troy oz.)

| | Sett price | Day's change | High | Low | Open int | Vol. |
|---|---|---|---|---|---|---|
| Oct | 525.8 | -0.2 | 532.0 | 532.0 | 169 | 2 |
| Dec | 530.5 | -0.3 | 537.5 | 529.0 | 60,214 | 22,462 |
| Jan | 532.2 | -0.3 | - | - | 24 | - |
| Mar | 536.4 | -0.2 | 543.5 | 535.0 | 11,057 | 1,328 |
| May | 540.4 | -0.2 | 543.0 | 543.0 | 6,446 | 812 |
| Jul | 544.1 | -0.2 | 551.0 | 543.5 | 6,373 | 372 |
| Total | | | | | 97,957 | 25,368 |

### ENERGY

■ CRUDE OIL NYMEX (42,000 US galls. $/barrel)

| | Latest price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Nov | 17.54 | -0.10 | 17.75 | 17.52 | 65,761 | 50,163 |
| Dec | 17.25 | -0.09 | 17.44 | 17.24 | 68,970 | 21,461 |
| Jan | 17.14 | -0.07 | 17.30 | 17.13 | 37,730 | 9,698 |
| Feb | 17.06 | -0.08 | 17.06 | 17.06 | 20,114 | 3,345 |
| Mar | 17.14 | +0.05 | - | - | 16,248 | 2,008 |
| Apr | 17.13 | +0.09 | - | - | 9,629 | 1,704 |
| Total | | | | | 326,258 | 91,323 |

■ CRUDE OIL IPE ($/barrel)

| | Latest price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Nov | 16.21 | -0.02 | 16.23 | 16.10 | 47,670 | 23,258 |
| Dec | 16.04 | +0.03 | 16.05 | 15.96 | 51,393 | 12,665 |
| Jan | 15.94 | +0.09 | 15.95 | 15.87 | 17,508 | 3,462 |
| Feb | 15.87 | +0.01 | 15.87 | 15.80 | 9,055 | 381 |
| Mar | 15.80 | - | 15.82 | 15.75 | 8,087 | 286 |
| Apr | 15.78 | +0.01 | 15.77 | 15.72 | 1,982 | - |
| Total | | | | | 149,065 | 39,240 |

■ HEATING OIL NYMEX (42,000 US galls.; c/US galls.)

| | Latest price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Nov | 49.15 | -0.11 | 49.45 | 49.05 | 36,069 | 13,741 |
| Dec | 49.75 | -0.16 | 50.10 | 49.70 | 36,870 | 7,512 |
| Jan | 50.10 | -0.21 | 50.37 | 50.10 | 29,782 | 5,025 |
| Feb | 49.95 | -0.06 | 50.10 | 49.90 | 12,615 | 1,259 |
| Mar | 49.00 | +0.09 | 49.10 | 48.90 | 5,329 | 396 |
| Apr | 47.95 | +0.19 | 47.95 | 47.95 | 3,117 | 86 |
| Total | | | | | 141,192 | 29,170 |

■ GAS OIL IPE ($/tonne)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Oct | 149.00 | - | 149.75 | 148.00 | 17,901 | 5,321 |
| Nov | 150.25 | +0.25 | 150.75 | 149.00 | 27,899 | 5,007 |
| Dec | 150.50 | +0.50 | 150.75 | 148.50 | 21,232 | 4,259 |
| Jan | 150.50 | +0.25 | 150.50 | 149.75 | 21,038 | 4,776 |
| Feb | 149.75 | +0.25 | 150.25 | 149.25 | 3,580 | 831 |
| Mar | 149.00 | +0.75 | 149.25 | 148.75 | 3,279 | 273 |
| Total | | | | | 100,418 | 21,896 |

■ NATURAL GAS NYMEX (10,000 mmBtu.; $/mmBtu.)

| | Latest price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Nov | 1.872 | -0.022 | 1.917 | 1.860 | 25,041 | 31,425 |
| Dec | 1.940 | -0.021 | 1.975 | 1.930 | 23,290 | 16,157 |
| Jan | 1.963 | -0.016 | 1.985 | 1.945 | 21,001 | 7,074 |
| Feb | 1.880 | -0.019 | 1.910 | 1.880 | 11,048 | 3,757 |
| Mar | 1.800 | -0.022 | 1.830 | 1.780 | 8,917 | 2,181 |
| Apr | 1.720 | -0.023 | 1.740 | 1.715 | 5,258 | 1,128 |
| Total | | | | | 131,804 | 65,080 |

■ UNLEADED GASOLINE
NYMEX (42,000 US galls.; c/US galls.)

| | Latest price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Nov | 52.60 | -0.18 | 53.10 | 52.45 | 24,513 | 13,097 |
| Dec | 51.30 | -0.03 | 51.60 | 51.05 | 13,181 | 4,925 |
| Jan | 50.85 | -0.13 | 51.05 | 50.80 | 6,466 | 2,075 |
| Feb | 50.85 | -0.18 | 51.00 | 50.95 | 2,515 | 186 |
| Mar | 51.05 | +0.02 | 51.05 | 51.05 | 1,269 | 412 |
| Apr | 54.00 | +0.50 | - | - | 2,960 | 10 |
| Total | | | | | 83,832 | 21,186 |

### GRAINS AND OIL SEEDS

■ WHEAT LCE (£ per tonne)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Nov | 115.00 | +0.30 | 115.00 | 114.25 | 2,573 | 178 |
| Jan | 117.40 | +0.55 | 117.40 | 116.60 | 1,734 | 53 |
| Mar | 119.40 | +0.55 | 119.40 | 118.60 | 1,196 | 75 |
| May | 121.40 | -0.60 | 121.40 | 120.75 | 1,981 | 64 |
| Jul | 122.30 | +0.40 | - | - | 74 | - |
| Sep | 105.00 | - | - | - | 11 | - |
| Total | | | | | 7,568 | 370 |

■ WHEAT CBT (5,000bu min; cents/60lb bushel)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Dec | 489½ | -5 | 493½ | 486 | 64,786 | 11,872 |
| Mar | 495 | -4¾ | 498 | 494¼ | 23,898 | 5,119 |
| May | 461 | -1¼ | 462 | 459 | 2,653 | 358 |
| Jul | 411¾ | -1½ | 413½ | 409½ | 8,378 | 1,370 |
| Sep | 415½ | -1 | 415½ | 414½ | 120 | 18 |
| Dec | 426½ | -½ | 426½ | 424 | 200 | 28 |
| Total | | | | | 100,035 | 18,765 |

■ MAIZE CBT (5,000 bu min; cents/56lb bushel)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Dec | 310/4 | -1/6 | 311/4 | 309/2 | 250,130 | 47,444 |
| Mar | 318/2 | -2/0 | 319/2 | 317/2 | 127,923 | 16,284 |
| May | 320/6 | -1/6 | 321/6 | 319/4 | 20,230 | 1,930 |
| Jul | 319/2 | -2/2 | 320/6 | 318/6 | 37,026 | 4,078 |
| Sep | 294/0 | -0/4 | 294/0 | 292/4 | 4,256 | 646 |
| Dec | 276/6 | +0/2 | 277/0 | 275/4 | 16,079 | 1,312 |
| Total | | | | | 455,932 | 71,758 |

■ BARLEY LCE (£ per tonne)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Nov | 107.70 | +0.15 | 107.70 | 107.25 | 790 | 51 |
| Jan | 110.80 | +0.30 | 110.80 | 110.25 | 652 | 30 |
| Mar | 112.80 | +0.30 | - | - | 559 | - |
| May | 115.40 | +0.40 | 115.40 | 115.25 | 182 | 17 |
| Total | | | | | 2,183 | 98 |

■ SOYABEANS CBT (5,000bu min; cents/60lb bushel)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Nov | 635/0 | -1/2 | 638/0 | 632/0 | 88,817 | 35,969 |
| Jan | 646/4 | -1/0 | 648/4 | 642/4 | 27,673 | 6,749 |
| Mar | 656/0 | -1/0 | 657/4 | 651/4 | 13,391 | 2,961 |
| May | 661/4 | -0/6 | 663/4 | 658/0 | 7,367 | 771 |
| Jul | 666/4 | -1/2 | 668/4 | 663/0 | 7,689 | 1,121 |
| Aug | 664/0 | -0/4 | - | - | 88 | 11 |
| Total | | | | | 155,019 | 48,750 |

■ SOYABEAN OIL CBT (60,000lbs; cents/lb)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Oct | 26.57 | -0.07 | 26.64 | 26.43 | 3,444 | 2,207 |
| Dec | 26.69 | -0.03 | 26.75 | 26.51 | 38,182 | 7,965 |
| Jan | 26.76 | -0.02 | 26.77 | 26.60 | 8,700 | 1,063 |
| Mar | 26.85 | -0.04 | 26.89 | 26.70 | 9,744 | 868 |
| May | 26.95 | -0.05 | 26.99 | 26.81 | 4,408 | 102 |
| Jul | 26.99 | -0.06 | 27.03 | 26.86 | 2,877 | 262 |
| Total | | | | | 68,194 | 12,506 |

■ SOYABEAN MEAL CBT (100 tons; $/ton)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Oct | 189.3 | -0.7 | 189.3 | 187.9 | 5,534 | 5,357 |
| Dec | 192.9 | - | 193.0 | 191.6 | 47,016 | 22,077 |
| Jan | 194.7 | +0.4 | 194.7 | 193.2 | 10,012 | 2,465 |
| Mar | 196.5 | +0.1 | 196.7 | 194.8 | 7,269 | 1,274 |
| May | 196.3 | +0.1 | 196.6 | 195.0 | 4,153 | 284 |
| Jul | 198.0 | - | 198.0 | 196.0 | 3,005 | 255 |
| Total | | | | | 77,892 | 31,816 |

■ POTATOES LCE (£/tonne)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Nov | 195.0 | - | - | - | 1 | - |
| Mar | 280.0 | - | - | - | - | - |
| Apr | 270.3 | +3.3 | 270.3 | 265.0 | 1,239 | 71 |
| May | 320.0 | - | - | - | 6 | - |
| Jun | 360.5 | - | - | - | - | - |
| Total | | | | | 1,246 | 71 |

■ FREIGHT (BIFFEX) LCE ($10/index point)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Oct | 1810 | -28 | 1860 | 1800 | 702 | 133 |
| Nov | 1822 | -35 | 1865 | 1808 | 568 | 99 |
| Dec | 1795 | -25 | 1839 | 1795 | 10 | 44 |
| Jan | 1758 | -6 | 1785 | 1745 | 1,067 | 97 |
| Apr | 1730 | -25 | 1730 | 1725 | 642 | 1 |
| Jul | 1530 | -18 | 1538 | 1530 | 156 | 10 |
| Total | | | | | 3,277 | 384 |

| | Close | Prev |
|---|---|---|
| BFI | 1879 | 1897 |

**Minor Metals**
European free market, from Metal Bulletin, $ per lb in warehouse, unless otherwise stated (last week's in brackets, where changed). Antimony: 99.6%, $ per tonne, 4,000-4,450 (4,550-4,800). Bismuth: min. 99.99%, tonne lots 3.95-4.10 (3.80-4.10). Cadmium: min. 99.95%, 205-210 cents a pound. Cobalt: MB free market, 99.8%, 29.25-29.75 (28.75-29.25); 99.3%, 26.00-26.40 (26.00-26.50). Mercury: min. 99.99%, $ per 76 lb flask, 145-165 (145-160). Molybdenum: drummed molybdic oxide, 4.35-4.65 (4.25-4.50). Selenium: min 99.5%, 3.80-4.50 (3.60-4.30). Tungsten ore: standard min. 65%, $ per tonne unit (10kg) $WO_3$, cif, 62-70. Vanadium: min. 98%, cif, 2.95-3.05 (2.85-3.00). Uranium: Nuexco exchange value, 9.00.

### SOFTS

■ COCOA LCE (£/tonne)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Dec | 892 | +6 | 893 | 881 | 27,530 | 2,406 |
| Mar | 922 | +6 | 924 | 913 | 29,616 | 2,446 |
| May | 940 | +6 | 942 | 934 | 13,525 | 909 |
| Jul | 956 | +4 | 957 | 950 | 3,928 | 237 |
| Sep | 974 | +5 | 976 | 967 | 12,034 | 134 |
| Dec | 998 | +10 | 998 | 987 | 5,762 | 51 |
| Total | | | | | 98,297 | 6,183 |

■ COCOA CSCE (10 tonnes; $/tonnes)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Dec | 1270 | +1 | 1276 | 1268 | 30,774 | 7,271 |
| Mar | 1305 | 0 | 1310 | 1301 | 18,340 | 3,887 |
| May | 1328 | +2 | 1331 | 1325 | 8,006 | 701 |
| Jul | 1352 | +2 | 1350 | 1349 | 3,522 | 99 |
| Sep | 1373 | +2 | - | - | 5,324 | 30 |
| Dec | 1402 | +2 | - | - | 5,898 | 45 |
| Total | | | | | 71,864 | 12,033 |

■ COCOA (ICCO) (SDR's/tonne)

| Oct 2 | Price | Prev. day |
|---|---|---|
| Daily | 918.51 | 929.63 |

■ COFFEE LCE ($/tonne)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Nov | 2340 | -30 | 2367 | 2320 | 12,546 | 1,946 |
| Jan | 2240 | -16 | 2257 | 2220 | 7,281 | 829 |
| Mar | 2190 | -2 | 2202 | 2170 | 3,310 | 434 |
| May | 2130 | -8 | 2150 | 2125 | 2,114 | 86 |
| Jul | 2100 | +5 | 2115 | 2100 | 234 | 3 |
| Sep | 2080 | +15 | 2080 | 2080 | 82 | 9 |
| Total | | | | | 25,567 | 3,307 |

■ COFFEE 'C' CSCE (37,500lbs; cents/lbs)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Dec | 121.80 | - | 122.20 | 118.60 | 17,791 | 6,415 |
| Mar | 118.60 | -0.65 | 119.25 | 116.25 | 8,710 | 2,094 |
| May | 118.15 | -0.20 | 118.50 | 116.50 | 2,178 | 227 |
| Jul | 119.00 | +0.05 | 119.00 | 117.00 | 412 | 84 |
| Sep | 118.40 | -0.35 | 117.25 | 117.25 | 269 | 33 |
| Dec | 118.90 | -0.35 | 117.50 | 117.50 | 53 | 1 |
| Total | | | | | 29,415 | 8,858 |

■ COFFEE (ICO) (US cents/pound)

| Oct 2 | Price | Prev. day |
|---|---|---|
| Comp. daily | 120.41 | 118.47 |
| 15 day average | 119.65 | 120.26 |

■ No7 PREMIUM RAW SUGAR LCE (cents/lbs)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Oct | 13.25 | - | - | - | - | - |
| Jan | 10.90 | - | - | - | - | - |
| Mar | 11.95 | - | - | - | - | - |
| May | 11.85 | - | - | - | - | - |
| Total | | | | | - | - |

■ WHITE SUGAR LCE ($/tonne)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Dec | 333.1 | +1.6 | 333.5 | 330.6 | 10,284 | 314 |
| Mar | 317.4 | +2.5 | 317.7 | 315.5 | 10,816 | 491 |
| May | 312.1 | +2.0 | 312.4 | 310.5 | 2,847 | 88 |
| Aug | 309.1 | +2.1 | 309.3 | 307.4 | 1,606 | 100 |
| Oct | 283.0 | +2.0 | 283.0 | 280.9 | 1,709 | 107 |
| Dec | 280.5 | +2.0 | 280.5 | 279.5 | 583 | 40 |
| Total | | | | | 27,972 | 1,140 |

■ SUGAR '11' CSCE (112,000lbs; cents/lbs)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Mar | 10.39 | +0.14 | 10.40 | 10.26 | 56,770 | 4,314 |
| May | 10.35 | +0.10 | 10.38 | 10.27 | 17,080 | 641 |
| Jul | 10.34 | +0.10 | 10.38 | 10.27 | 12,557 | 181 |
| Oct | 10.32 | +0.11 | 10.33 | 10.22 | 12,302 | 222 |
| Mar | 10.29 | +0.12 | 10.29 | 10.19 | 5,097 | 240 |
| Total | | | | | 103,806 | 5,598 |

■ COTTON NYCE (50,000lbs; cents/lbs)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Oct | 94.40 | +0.75 | 95.00 | 94.35 | 770 | 130 |
| Dec | 90.56 | +0.88 | 91.10 | 90.15 | 32,546 | 5,794 |
| Mar | 91.48 | +0.91 | 91.90 | 91.00 | 15,556 | 1,345 |
| May | 92.35 | +1.05 | 92.50 | 92.00 | 7,050 | 670 |
| Jul | 92.83 | +1.18 | 92.90 | 92.30 | 5,219 | 324 |
| Oct | 80.40 | +0.65 | 80.40 | 80.30 | 1,288 | 37 |
| Total | | | | | 66,688 | 8,372 |

■ ORANGE JUICE NYCE (15,000lbs; cents/lbs)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Nov | 111.30 | +0.95 | 111.90 | 110.25 | 11,286 | 1,234 |
| Jan | 113.25 | +1.00 | 113.90 | 112.10 | 5,323 | 362 |
| Mar | 115.75 | +1.05 | 116.00 | 115.50 | 1,664 | 176 |
| May | 117.75 | +1.05 | - | - | 1,021 | 6 |
| Jul | 120.05 | +1.10 | - | - | 388 | 20 |
| Sep | 122.05 | +1.10 | - | - | 238 | - |
| Total | | | | | 20,164 | 1,798 |

**VOLUME DATA**
Open interest and Volume data shown for contracts traded on COMEX, NYMEX, CBT, NYCE, CME, CSCE and IPE Crude Oil are one day in arrears.

### INDICES

■ REUTERS (Base: 18/9/31=100)

| Oct 2 | Sep 29 | month ago | year ago |
|---|---|---|---|
| 2092.0 | 2094.7 | 2221.0 | 2090.7 |

■ CRB Futures (Base: 1967=100)

| Oct 2 | Sep 29 | month ago | year ago |
|---|---|---|---|
| 240.35 | 241.60 | 239.21 | - |

■ GSCI Spot (Base: 1970=100)

| Oct 2 | Sep 29 | month ago | year ago |
|---|---|---|---|
| 182.84 | 181.08 | 183.43 | 171.42 |

### MEAT AND LIVESTOCK

■ LIVE CATTLE CME (40,000lbs; cents/lbs)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Oct | 63.925 | - | 64.100 | 63.700 | 12,095 | 4,288 |
| Dec | 65.850 | +0.125 | 65.925 | 65.600 | 26,197 | 10,568 |
| Feb | 65.275 | +0.025 | 65.400 | 65.050 | 13,063 | 2,899 |
| Apr | 65.900 | +0.050 | 65.925 | 65.625 | 7,142 | 761 |
| Jun | 61.950 | +0.050 | 62.100 | 61.850 | 2,458 | 203 |
| Aug | 60.850 | +0.050 | 60.975 | 60.850 | 977 | 78 |
| Total | | | | | 62,076 | 18,869 |

■ LIVE HOGS CME (40,000lbs; cents/lbs)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Oct | 45.775 | +0.250 | 45.825 | 45.100 | 8,354 | 2,737 |
| Dec | 45.825 | +0.400 | 45.875 | 45.125 | 11,554 | 4,887 |
| Feb | 48.000 | +0.300 | 48.050 | 47.450 | 6,730 | 1,628 |
| Apr | 47.475 | +0.475 | 47.500 | 46.700 | 2,091 | 323 |
| Jun | 51.750 | +0.250 | 51.950 | 51.200 | 2,542 | 289 |
| Aug | 49.850 | +0.150 | 50.000 | 49.550 | 993 | 218 |
| Total | | | | | 32,706 | 10,154 |

■ PORK BELLIES CME (40,000lbs; cents/lbs)

| | Sett price | Day's change | High | Low | Open int | Vol |
|---|---|---|---|---|---|---|
| Feb | 60.575 | +0.525 | 60.650 | 59.800 | 5,542 | 1,367 |
| Mar | 60.650 | +0.500 | 60.700 | 59.700 | 462 | 229 |
| May | 61.500 | +0.850 | 61.500 | 60.450 | 96 | 9 |
| Jul | 62.975 | +0.550 | 62.975 | 61.600 | 416 | 67 |
| Aug | 60.350 | +0.550 | 60.350 | - | 32 | 2 |
| Total | | | | | 6,550 | 1,674 |

### LONDON TRADED OPTIONS

*Strike price $ tonne* — Calls — — Puts —

| | Calls | | Puts | |
|---|---|---|---|---|
| ■ ALUMINIUM (99.7%) LME | Dec | Feb | Dec | Feb |
| 1700 | 109 | 147 | 39 | 61 |
| 1800 | 57 | 95 | 86 | 107 |
| 1900 | 26 | 58 | 153 | 167 |
| ■ COPPER (Grade A) LME | Dec | Feb | Dec | Feb |
| 2800 | 154 | 136 | 51 | 87 |
| 2900 | 98 | 99 | 93 | 138 |
| 3000 | 57 | 55 | 151 | 202 |
| ■ COFFEE LCE | Nov | Jan | Nov | Jan |
| 2700 | 9 | 46 | 365 | 505 |
| 2750 | 9 | 40 | 414 | 549 |
| 2800 | 9 | 34 | 463 | 593 |
| ■ COCOA LCE | Dec | Mar | Dec | Mar |
| 875 | 39 | 75 | 13 | 27 |
| 900 | 27 | 60 | 22 | 37 |
| 925 | 18 | 48 | 35 | 50 |
| ■ BRENT CRUDE IPE | Nov | Dec | Nov | Dec |
| 1600 | 29 | 39 | 11 | 40 |
| 1650 | 7 | 22 | 39 | 70 |
| 1700 | 2 | 12 | 81 | 109 |

### LONDON SPOT MARKETS

■ CRUDE OIL FOB (per barrel/Nov)

| | | +or- |
|---|---|---|
| Dubai | $14.99-5.06w | +0.065 |
| Brent Blend (dated) | $16.58-6.60 | +0.010 |
| Brent Blend (Nov) | $16.20-6.22 | +0.055 |
| W.T.I. (1pm est) | $17.83-7.65w | +0.065 |

■ OIL PRODUCTS NWEprompt delivery CIF (tonne)

| | | |
|---|---|---|
| Premium Gasoline | $173-174 | +5 |
| Gas Oil | $149-150 | -1 |
| Heavy Fuel Oil | $83-85 | -1 |
| Naphtha | $151-153 | |
| Jet fuel | $177-179 | |
| Diesel | $153-154 | -1 |

*Petroleum Argus. Tel. London (0171) 359 8792*

■ OTHER

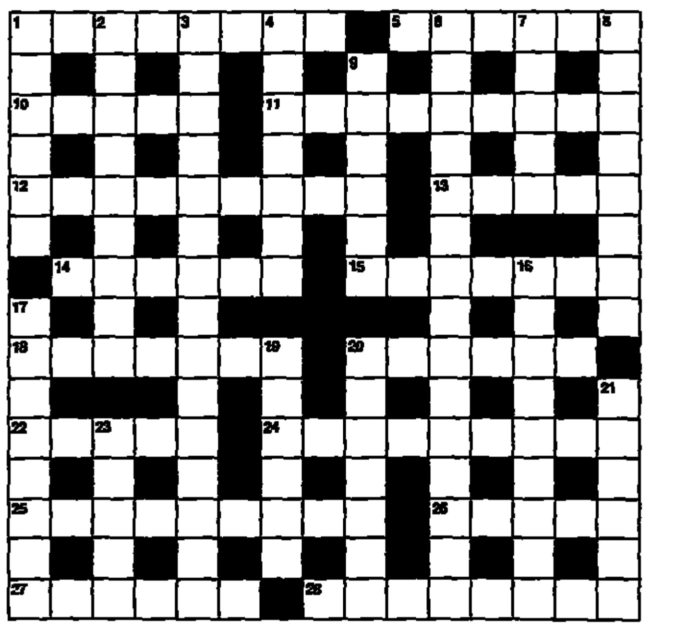
| | | |
|---|---|---|
| Gold (per troy oz)♣ | $382.30 | +0.10 |
| Silver (per troy oz)♣ | 535.5c | -1.0 |
| Platinum (per troy oz.) | $413.25 | -7.50 |
| Palladium (per troy oz.) | $139.60 | -1.90 |
| Copper (US prod.) | Unq. | |
| Lead (US prod.) | 41.75c | |
| Tin (Kuala Lumpur) | 15.86m | -0.16 |
| Tin (New York) | 298.5c | -1.0 |
| Cattle (live weight)† | 126.63p | -3.01* |
| Sheep (live weight)†♠ | 102.80p | -0.93* |
| Pigs (live weight)† | 99.05p | -0.04* |
| Lon. day sugar (raw) | $288.10 | |
| Lon. day sugar (wte) | $372.80 | +1.30 |
| Barley (Eng. feed) | £114.50x | |
| Maize (US No3 Yellow) | £104.0w | |
| Wheat (US Dark North) | Unq. | |
| Rubber (Nov)♥ | 89.00p | |
| Rubber (Dec)♥ | 89.00p | |
| Rubber (KL RSS No1) | 337.0m | -0.5 |
| Coconut Oil (Phil)§ | $715.0u | +10.0 |
| Palm Oil (Malay.)§ | $612.5z | -2.5 |
| Copra (Phil)§ | 457.0y | +9.0 |
| Soyabeans (US) | 189.0u | -3.0 |
| Cotton Outlook'A' index | 93.70c | |
| Wooltops (64s Super) | 475p | |

£ per tonne unless otherwise stated. p pence/kg. c cents/lb r ringgit/kg. m Malaysian cents/kg. z Oct. u Nov/Dec.♥ w Nov. y Oct/Nov. x Oct/Dec London Physical. § CIF Rotterdam. ♣ Bullion market close. ♠ Sheep (Live weight prices). * Change on week † Prices are for previous day.

**JOTTER PAD**

## CROSSWORD

No.8,883 Set by FETTLER



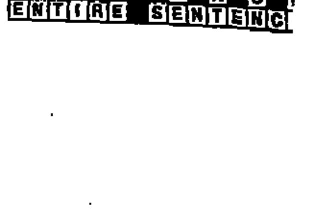
**ACROSS**

1 Initially shook, then rattled all over when frightened (8)
5 Sailor, a drunkard, is colouring (6)
10 Unit of brightness edges off somewhere between red and green (5)
11 Dead voter struck off – being passé (9)
12 Attendants put into a temper about turning out (9)
13 Rule that is not quite up to the mark (5)
14 The French setting for an old brooch is a bit iffy (6)
15 The old fiddle about for her (7)
18 Some taxicab's in the drink! (7)
20 One who's pretentious does up intricately (6)
22 Bird losing a bit off the top – the comb perhaps (5)
24 Pack this lecturer assembled from sources of teaching aids (5-4)
25 Bombs away! Signified kite's arrival, I fancy (3-6)
26 Detest Jack Horner? Not half (5)
27 Put up with close practice (6)
28 Secret store deteriorated in backward French company (8)

**DOWN**

1 Reprimands for being overdue on board (6)
2 Aspiring academic turns up with little debts (9)
3 Playing croquet on green with sovereign gear (6,9)
4 Call up? Chap's come back at the start of enlistment (7)
6 Terribly bad end to holiday firm offering board and lodging (3,3,9)
7 Pass off as genuine total (5)
8 Thought women, lurking in hay, had a place of concealment (4-4)
9 Somehow, even majesty is showing superficial refinement (6)
16 This vessel's about to cast a net in the German river (3-6)
17 Conservative service in Scotland is only a posture (8)
19 Feverish, agitated, etc as seen in this Latin (6)
20 Trackmen – not tardy participants in their sport (7)
21 Scorpio, almost in translation indicating scabby outlook (6)
23 Challenged some order adopted retroactively (5)

Solution 8,882



## INTERNATIONAL CAPITAL MARKETS

# Treasuries higher ahead of jobs data

**By Lisa Bransten in New York and Graham Bowley in London**

The US Treasury market retained its bullish tone in quiet trading yesterday as traders awaited key unemployment data due on Friday.

Near midday, the benchmark 30-year Treasury was 11/32 higher at 105 1/16 to yield 6.447 per cent. At the short end of the maturity spectrum the two-year note was up 1/16 at 99 15/16, yielding 5.767 per cent.

Yesterday's trading led the long-bond yield down to its lowest level this year as bonds continued to reverse the downturn taken in July.

Bonds received a boost from news that the Mitsubishi-Schroder report on chain store sales showed a 0.4 per cent drop last week. Mr William Shea, a senior vice-president in fixed-income trading at Nikko Securities in New York, said he believed the market has emerged from its recent downturn and is now making a decisive move toward higher prices and lower yields.

"The Mitsubishi survey ratified the price increases we are seeing," he said.

Economists estimate that Friday's employment figures will show a 150,000 increase in non-farm jobs, and the market could be rattled if the figure shows stronger employment growth. But Mr Shea said he thought the market would ultimately resume its bullish trend. "That would be a buying opportunity," he said.

Bonds got some support from the dollar, which gained in early trading against the yen and the D-Mark, changing hands at Y101.50 and DM1.4385 compared with Y100.35 and DM1.4288 late on Monday.

■ A stronger US dollar and a rise in US Treasuries lifted European government bond markets yesterday after they opened sharply lower.

Analysts blamed the early losses on profit-taking. They said dealers marked all markets lower in thin trading conditions after Monday's gains but a strengthening of the US currency pulled most markets higher in the afternoon session.

### GOVERNMENT BONDS

*With debt markets in Germany closed for the Unity Day holiday, cash market trading was quiet although dealers reported some activity in the futures pits.*

■ Anxiety over the progress of the 1996 budget once again gripped the Italian government bond market, which suffered extreme volatility and moved in a wide trading range.

Italian bonds fell sharply early in the session, with the December futures contract on Liffe touching a low of 100.35. But the market recovered later to settle around 101.85, up 0.44 point, in late trading.

■ UK government bonds recovered early losses, helped by the US, to close ahead on the day. The long gilt future on Liffe, which fell to a low of 105 14/32, traded higher through key levels around 106 to close at 106 5/32, up 5/32 points.

Traders said the short-end of the gilts market continued to be well bid, leading to a steepening of the yield curve at the short end.

Some analysts said that the 20 basis points spread between the 10 and 20-year area of the yield curve represented an opportunity to switch longer. But Mr Stephen Scott, gilts strategist at Kleinwort Benson, said that long yields were unlikely to fall significantly ahead of the next auction – of 20-year gilts – at the end of the month.

"The market will start to discount the next auction earlier and more deeply because of the greater perceived risk premium" following last month's disappointing auction, he said.

However, Mr James Johnston, manager of UK fixed interest at AMP Asset Management, said that the steepening of the yield curve which has taken place since last month's auction had "now gone far enough. It now represents a reasonable opportunity to buy the long end of the market," he said.

■ Investors reacted positively to the latest Belgian budget, which was presented yesterday. Traders reported strong buying of Belgian bonds across all maturities after the budget details were unveiled.

# Italy dominates flood of new supply in US dollars

**By Conner Middelmann**

While a German national holiday kept the lid on eurobond issuance in European currencies, the US dollar sector saw a flood of new supply, dominated by a $2bn five-year offering for the Republic of Italy via Daiwa.

### INTERNATIONAL BONDS

The transaction was split into two tranches: $1.5bn of *zero-coupon bonds and $500m* of 6 per cent bonds, each yielding 17 basis points over the Treasury yield curve.

The offer was targeted at Japanese retail investors seeking to refinance some Y2,000bn of five-year bank debentures and other domestic instruments maturing this month.

With yields on five-year bank debentures currently between 1.7 and 2 per cent, Japanese retail investors used to getting 7-8 per cent interest on their savings have been hunting for higher-yielding alternatives.

Zero-coupon bonds are also tax-efficient for Japanese retail investors, who are exempt from capital gains tax on returns up to Y500,000 per year.

Since the vast majority of the bonds will be placed with retail investors, whose main concern is coupon rather than yield spread over Treasuries, Italy was able to get away with *a fairly aggressive pricing.*

The sub-Libor funding available to Italy "represented a phenomenal cost saving for us", said an official at the Italian Treasury. At the re-offer price, the cost was 15 basis points below Libor on the zero-coupon bond and 13 basis points below Libor on the coupon bond and compared with issuing an institutional-targeted dollar bond, Italy saved about 25 basis points, he said.

Canada's Province of Alberta made a rare appearance with a well-received $300m five-year bond via SC First Boston and J. P. Morgan. Pricing of 23 basis points over Treasuries was deemed tight but the leads reported good interest from institutional and retail investors, helped by the borrower's rarity appeal.

"Alberta's public finances are in excellent shape, so they won't be coming back soon," said a trader at another house.

Today, dealers expect to see the long-awaited launch of Toyota Motor Credit Corporation's $750m of five-year bonds, as well as a $300m floating-rate note offering for Australia's Advance Bank.

### NEW INTERNATIONAL BOND ISSUES

| Borrower | Amount m. | Coupon % | Price | Maturity | Fees % | Spread bp | Book runner |
|---|---|---|---|---|---|---|---|
| **US DOLLARS** | | | | | | | |
| Republic of Italy★ | 1.5bn | zero | 72.92 | Jan.2001 | 0.25 | +17(a) | Daiwa Europe |
| Republic of Italy(s)★ | 500 | 6.00 | 98.86R | Jan.2001 | 0.25R | +17(l) | Daiwa Europe |
| Province of Alberta★ | 300 | 6.25 | 99.691R | Oct.2000 | 0.25R | +23(6½%-00) | CSFB/JP Morgan Securities |
| Paramount Bed Co.(b)ϕ | 100 | 2.75 | 100.00 | Oct.1999 | 2.25 | - | Daiwa Europe |
| Finnish Export Credit★ | 100 | 5.70# | 100.00 | Oct.1998 | 0.50 | - | Nikko Europe |
| Telecom Brazil Funding(c)★‡ | 38 | (c1) | 100.00 | Dec.1999 | 1.00 | - | Bank of Boston/ UBS |
| **YEN** | | | | | | | |
| Asfinag★ | 10bn | (d) | 100.00 | Oct.2015 | none | - | Daiwa Europe |
| **SWISS FRANCS** | | | | | | | |
| Japan Transcity(b)★ϕ | 70 | 0.75 | 100.00 | Oct.1999 | 1.625 | - | Credit Suisse |
| **AUSTRALIAN DOLLARS** | | | | | | | |
| Treasury Corp. of Victoria★ | 100 | 5.00# | 97.10 | Oct.1997 | 1.25 | - | Nikko Europe |

Final terms, non-callable unless stated. Yield spread (over relevant government bond) at launch supplied by lead manager. ★Unlisted. ϕWith equity warrants. ‡ Floating-rate note. #Semi-annual coupon. R: fixed re-offer price; fees shown at re-offer level. a) Over interpolated zero curve. b) Fixing: 11/10/95. c) Collateralised by promissory notes issued by Telesp, guaranteed by Telebras. c1) 6-mth Libor +550bp. c2) Tranche B: $14½m, same terms, promissory notes issued by Telespar. d) 5.21% in DM or 5.81% in A$, issuers option. l) Over interpolated yield. s) Short 1st coupon.

# Hopes of Brady buy-back lift Brazilian debt prices

While other Latin American sovereign bonds were stuck in the doldrums last month, Brazilian debt enjoyed a sudden surge of interest. The reason was the impending arrival on the market of a new and very big player: the Central Bank of Brazil, widely understood to be preparing a buy-back of its Brady bonds and coming armed with foreign reserves of an estimated US$50bn.

Rumours of a debt buy-back started in early September when the senate agreed to remove an important restriction which formed part of last year's Brady Plan debt restructuring deal.

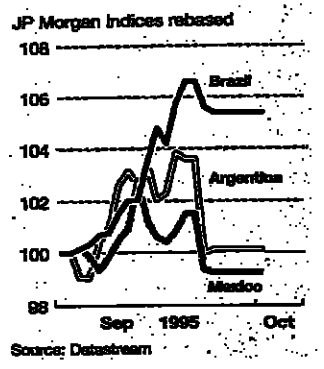
The deal allowed Brazil to deposit collateral for its bonds in five instalments over two years but prohibited it from buying its Brady bonds on the secondary market until after the last payment in April 1996. A senate vote on September 14 allowed the government to make the last payment ahead of schedule, on October 16.

"This is absolutely and unambiguously positive," said Mr Tulio Vera of Bear Stearns in New York. "The markets rallied on the news and it will continue to be a very positive factor. But questions remain about Brazil's motives and that will make a difference to how markets react later."

The government has made no effort to deny that a buy-back is in the pipeline. A spokesman for finance minister Pedro Malan said the advance payment removed a restriction that prevented Brazil from most effectively managing its foreign debt. "It brings forward by several months a more comfortable relationship with the international financial community," he said.

A central bank official who asked not to be named confirmed that the bank is working on a buy-back programme and gave two reasons for the advance collateral payment: "It allows us to take advantage of investment opportunities hitherto closed to us; and it improves Brazil's country risk by removing uncertainty over our ability to pay our debt."

**Brady bonds**



Source: Datastream

The official insists that both motives have equal weight but each would lead to a different market strategy. If the intention was to operate as an investor like any other, the central bank would pick its moment and act quietly. But if the priority was to amortise debt and improve Brazil's credit rating, a formal auction programme, like that recently started by Argentina, would be better.

"For somebody like me who looks closely at credit worthiness, the most positive outcome would be a formal auction programme," says Mr Vera. But opinion is divided on how the central bank will operate. "A player of this size and type is likely to use a more open method," says Ms Lisa Jensen of Bank of Boston in Sao Paulo.

The central bank has certainly become more open in its dealings with financial markets this year but many debt traders expect the central bank to avoid formal auctions.

Argentina's programme, which started well, ran into problems last month when the economy ministry complained that traders were pushing prices too high. Mr Deiwes Roubira of ING Bank in Sao Paulo is convinced the central bank will do everything to avoid a similar experience.

"We think there is absolutely no prospect of formal auctions," he says. "The Bank will watch bond prices and pick its moments carefully."

The central bank official insists the bank is a long way from a final decision, but tends to support Mr Roubira's view.

"The prospect of a big player like the central bank coming to the market has pushed prices up and will continue to do so. But the bank would not make a small number of large purchases. We would buy in small parcels at the right moment. It's unlikely that we would follow Argentina's example and hold formal auctions."

The central bank has shown its skill in buying bonds quietly in the past when the US Treasury refused to make a special issue of zero-coupon bonds as collateral for the Brady deal, the official points out.

Mr Vera thinks the bank should look carefully at Argentina's experience and learn from it. "I don't see the higher prices as speculation," he says. "Public auctions are a very positive thing and they make a great improvement to a country's credit rating. So of course prices go up."

For now, the government seems happy to see the price of its debt rise. An announcement last week that sovereign bonds will be accepted at full face value in privatisation sales, instead of at a 25 per cent discount as in the past, will help maintain their momentum.

The prospect of a buy-back when markets are taking a more bullish view of Brazil's economic prospects, should keep its debt buoyant into the new year.

**Jonathan Wheatley**

## WORLD BOND PRICES

### BENCHMARK GOVERNMENT BONDS

| | | Coupon | Red Date | Price | Day's change | Yield | Week ago | Month ago |
|---|---|---|---|---|---|---|---|---|
| Australia | | 7.500 | 07/05 | 92.9300 | -0.370 | 6.58 | 8.70 | 9.27 |
| Austria | | 6.875 | 08/05 | 99.7700 | +0.510 | 6.90 | 6.90 | 7.02 |
| Belgium | | 6.500 | 03/05 | 96.3800 | +0.270 | 7.03 | 7.10 | 7.21 |
| Canada * | | 8.750 | 12/05 | 107.4000 | -0.050 | 7.68 | 7.88 | 8.28 |
| Denmark | | 7.000 | 12/04 | 94.5600 | +0.220 | 7.85 | 7.88 | 8.00 |
| France | BTAN | 7.750 | 04/00 | 103.8750 | +0.130 | 6.71 | 6.74 | 6.60 |
| | OAT | 7.750 | 10/05 | 102.1200 | +0.130 | 7.44 | 7.42 | 7.31 |
| Germany Bund | | 6.875 | 05/05 | 102.1600 | +0.110 | 6.56 | 6.55 | 6.72 |
| Ireland | | 6.250 | 10/04 | 88.0500 | +0.300 | 8.17 | 8.18 | 8.34 |
| Italy | | 10.500 | 04/05 | 94.0200 | +0.580 | 11.55† | 11.29 | 11.22 |
| Japan | No 129 | 6.400 | 03/00 | 120.2520 | -0.010 | 1.53 | 1.60 | 2.19 |
| | No 174 | 4.600 | 09/04 | 114.5560 | +0.160 | 2.60 | 1.60 | 3.21 |
| Netherlands | | 7.000 | 06/05 | 102.6000 | -0.040 | 6.62 | 6.59 | 6.75 |
| Portugal | | 11.875 | 02/05 | 103.6800 | -0.100 | 11.20 | 11.21 | 11.28 |
| Spain | | 10.000 | 02/05 | 95.0000 | +0.380 | 10.83 | 10.88 | 10.91 |
| Sweden | | 6.000 | 02/05 | 79.8810 | +0.520 | 9.31 | 9.59 | 10.14 |
| UK Gilts | | 6.000 | 12/00 | 102-11 | +6/32 | 7.44 | 7.52 | 7.65 |
| | | 8.500 | 12/05 | 103-12 | +7/32 | 8.00 | 7.99 | 8.09 |
| | | 9.000 | 10/08 | 106-29 | +8/32 | 8.13 | 8.08 | 8.15 |
| US Treasury * | | 6.500 | 08/05 | 102-26 | - | 6.11 | 6.21 | 6.53 |
| | | 6.875 | 08/25 | 105-18 | +1/32 | 6.45 | 6.54 | 6.88 |
| ECU (French Govt) | | 7.500 | 04/05 | 98.4400 | +0.040 | 7.73 | 7.74 | 7.67 |

London closing, *New York mid-day

Yields: Local market standard.

*† Gross (including withholding tax at 12.5 per cent payable by nonresidents)*

*Prices: US, UK in 32nds, others in decimal*

*Source: MMS International*

### US INTEREST RATES

Latest

| | |
|---|---|
| Prime rate | 8¾ |
| Broker loan rate | 7½ |
| Fed.funds | 5 11/16 |
| Fed.funds at intervention | - |

Treasury Bills and Bond Yields

| | | | |
|---|---|---|---|
| One month | 5.50 | Two year | 5.78 |
| Two month | 5.50 | Three year | 5.85 |
| Three month | 5.50 | Five year | 5.96 |
| Six month | 5.61 | 10-year | 6.12 |
| One year | 5.82 | 30-year | 6.47 |

### BOND FUTURES AND OPTIONS

#### France

■ NOTIONAL FRENCH BOND FUTURES (MATIF) FFr500,000

| | Open | Sett price | Change | High | Low | Est. vol. | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 115.04 | 115.52 | +0.02 | 115.56 | 115.02 | 104,696 | 100,639 |
| Mar | 114.40 | 114.84 | +0.02 | 114.84 | 114.40 | 166 | 2,759 |
| Jun | 114.58 | 115.02 | +0.02 | 114.58 | 114.58 | 2 | 1,245 |

■ LONG TERM FRENCH BOND OPTIONS (MATIF)

| Strike Price | CALLS Nov | CALLS Dec | CALLS Mar | PUTS Nov | PUTS Dec | PUTS Mar |
|---|---|---|---|---|---|---|
| 114 | - | 2.00 | - | 0.20 | 0.55 | - |
| 115 | 0.09 | 1.34 | - | 0.45 | 0.86 | - |
| 116 | 0.41 | 0.82 | - | 0.94 | 1.33 | - |
| 117 | 0.12 | 0.43 | - | - | - | - |
| 118 | - | 0.20 | 0.42 | - | - | - |

Est. vol. total, Calls 11,191 Puts 19,442 . Previous day's open int., Calls 110,573 Puts 130,539.

#### Germany

■ NOTIONAL GERMAN BUND FUTURES (LIFFE)* DM250,000 100ths of 100%

| | Open | Sett price | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 95.51 | 95.59 | -0.03 | 95.71 | 95.23 | 76854 | 182848 |
| Mar | 94.80 | 95.02 | -0.03 | 94.80 | 94.78 | 169 | 3461 |

■ BUND FUTURES OPTIONS (LIFFE) DM250,000 points of 100%

| Strike Price | CALLS Nov | CALLS Dec | CALLS Jan | CALLS Mar | PUTS Nov | PUTS Dec | PUTS Jan | PUTS Mar |
|---|---|---|---|---|---|---|---|---|
| 9550 | 0.52 | 0.82 | 0.69 | 1.01 | 0.43 | 0.73 | 1.17 | 1.49 |
| 9600 | 0.29 | 0.57 | 0.50 | 0.81 | 0.70 | 0.98 | 1.48 | 1.79 |
| 9650 | 0.15 | 0.38 | 0.36 | 0.63 | 1.06 | 1.29 | 1.84 | 2.11 |

Est. vol. total, Calls 7959 Puts 5924. Previous day's open int., Calls 188553 Puts 152132

#### Italy

■ NOTIONAL ITALIAN GOVT. BOND (BTP) FUTURES (LIFFE)* Lira 200m 100ths of 100%

| | Open | Sett price | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 101.10 | 101.79 | +0.38 | 101.87 | 100.35 | 48902 | 44543 |

■ ITALIAN GOVT. BOND (BTP) FUTURES OPTIONS (LIFFE) Lira200m 100ths of 100%

| Strike Price | CALLS Dec | CALLS Mar | PUTS Dec | PUTS Mar |
|---|---|---|---|---|
| 10150 | 1.77 | 2.59 | 1.48 | 2.80 |
| 10200 | 1.53 | 2.37 | 1.74 | 3.08 |
| 10250 | 1.30 | 2.15 | 2.01 | 3.36 |

Est. vol. total, Calls 5741 Puts 4112. Previous day's open int., Calls 33887 Puts 34337

#### Spain

■ NOTIONAL SPANISH BOND FUTURES (MEFF)

| | Open | Sett price | Change | High | Low | Est. vol. | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 88.39 | 88.99 | +0.11 | 89.08 | 88.30 | 47,541 | 33,150 |
| Mar | 88.56 | 88.88 | - | 88.56 | 88.40 | 28 | 8 |

#### UK

■ NOTIONAL UK GILT FUTURES (LIFFE)* £50,000 32nds of 100%

| | Open | Sett price | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 105-24 | 106-05 | +0-05 | 106-12 | 105-14 | 46709 | 101300 |
| Mar | 105-09 | 105-22 | +0-05 | 105-09 | 105-09 | 12 | 63 |

■ LONG GILT FUTURES OPTIONS (LIFFE) £50,000 64ths of 100%

| Strike Price | CALLS Nov | CALLS Dec | CALLS Jan | CALLS Mar | PUTS Nov | PUTS Dec | PUTS Jan | PUTS Mar |
|---|---|---|---|---|---|---|---|---|
| 106 | 0-55 | 1-20 | 1-24 | 1-58 | 0-45 | 1-10 | 1-44 | 2-14 |
| 107 | 0-27 | 0-54 | 0-61 | 1-30 | 1-17 | 1-44 | 2-17 | 2-50 |
| 108 | 0-12 | 0-33 | 0-41 | 1-07 | 2-02 | 2-23 | 2-61 | 3-27 |

Est. vol. total, Calls 1601 Puts 1720. Previous day's open int., Calls 31833 Puts 25013

#### Ecu

■ ECU BOND FUTURES (MATIF) ECU100,000

| | Open | Sett price | Change | High | Low | Est. vol. | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 86.18 | 86.54 | +0.02 | 86.58 | 86.14 | 1,166 | 7,739 |

#### US

■ US TREASURY BOND FUTURES (CBT) $100,000 32nds of 100%

| | Open | Latest | Change | High | Low | Est. vol. | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 114-12 | 114-19 | -0-02 | 114-20 | 114-08 | 313,554 | 326,291 |
| Mar | 114-01 | 114-05 | -0-01 | 114-06 | 113-28 | 716 | 12,290 |
| Jun | 113-20 | 113-22 | -0-03 | 113-22 | 113-20 | 111 | 2,406 |

#### Japan

■ NOTIONAL LONG TERM JAPANESE GOVT. BOND FUTURES (LIFFE) Y100m 100ths of 100%

| | Open | Close | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 121.98 | - | - | 122.05 | 121.80 | 3058 | 0 |
| Mar | 120.93 | - | - | 120.93 | 120.81 | 85 | 0 |

* LIFFE futures also traded on APT. All Open interest figs. are for previous day.

### FT-ACTUARIES FIXED INTEREST INDICES

| Price Indices UK Gilts | Tue Oct 3 | Day's change % | Mon Oct 2 | Accrued interest | xd adj. ytd | | Low coupon yield Oct 3 | Low coupon yield Oct 2 | Low coupon yield Yr. ago | Medium coupon yield Oct 3 | Medium coupon yield Oct 2 | Medium coupon yield Yr. ago | High coupon yield Oct 3 | High coupon yield Oct 2 | High coupon yield Yr. ago |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Up to 5 years (23) | 121.91 | +0.11 | 121.78 | 1.87 | 8.38 | 5 yrs | 7.54 | 7.58 | 8.78 | 7.53 | 7.56 | 8.84 | 7.63 | 7.65 | 9.03 |
| 2 5-15 years (21) | 144.99 | +0.15 | 144.78 | 1.70 | 9.78 | 15 yrs | 8.18 | 8.20 | 8.71 | 8.20 | 8.22 | 8.86 | 8.29 | 8.31 | 9.08 |
| 3 Over 15 years (9) | 160.43 | +0.21 | 160.09 | 2.46 | 9.84 | 20 yrs | 8.23 | 8.24 | 8.65 | 8.26 | 8.27 | 8.86 | 8.34 | 8.35 | 8.96 |
| 4 Irredeemables (6) | 182.95 | +0.10 | 182.78 | 3.55 | 8.83 | Irred.† | 8.34 | 8.35 | 8.73 | | | | | | |
| 5 All stocks (59) | 140.92 | +0.15 | 140.71 | 1.92 | 9.35 | | | | | | | | | | |

| Index-linked | | | | | | | Inflation 5% Oct 3 | Inflation 5% Oct 2 | Inflation 5% Yr. ago | Inflation 10% Oct 3 | Inflation 10% Oct 2 | Inflation 10% Yr. ago |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 Up to 5 years (1) | 192.84 | +0.15 | 192.54 | -0.55 | 8.37 | Up to 5 yrs | 3.07 | 3.12 | 4.08 | 1.99 | 2.04 | 2.97 |
| 7 Over 5 years (11) | 185.11 | +0.02 | 185.07 | 0.88 | 4.00 | Over 5 yrs | 3.67 | 3.67 | 3.88 | 3.47 | 3.47 | 3.69 |
| 8 All stocks (12) | 185.16 | +0.03 | 185.11 | 0.84 | 4.10 | | | | | | | |

Average gross redemption yields are shown above. Coupon Bands: Low: 0%-7¾%; Medium: 8%-10¾%; High: 11% and over. † Flat yield. ytd Year to date.

### FT FIXED INTEREST INDICES

| | Oct 3 | Oct 2 | Sep 29 | Sep 28 | Sep 27 | Yr ago | High* | Low* |
|---|---|---|---|---|---|---|---|---|
| Govt. Secs. (UK) | 93.25 | 93.25 | 93.00 | 92.98 | 92.98 | 90.22 | 95.51 | 90.22 |
| Fixed interest | 111.57 | 111.52 | 111.54 | 111.63 | 112.04 | 106.93 | 114.65 | 108.77 |

* for 1995. Government Securities high since compilation: 127.40 (9/1/35), low 49.18 (3/1/75). Fixed interest high since compilation: 133.87 (21/1/94) , low 50.53 (3/1/75) . Basis 100: Government Securities 15/10/26 and Fixed Interest 1928. SE activity indices rebased 1974.

### GILT EDGED ACTIVITY INDICES

| | Oct 2 | Sep 29 | Sep 28 | Sep 27 | Sep 26 |
|---|---|---|---|---|---|
| Gilt Edged bargains | 74.6 | 84.8 | 88.7 | 112.6 | 85.2 |
| 5-day average | 89.2 | 90.2 | 91.1 | 89.4 | 82.0 |

## FT/ISMA INTERNATIONAL BOND SERVICE

Listed are the latest international bonds for which there is an adequate secondary market. Latest prices at 7:00 pm on October 3

| | Issued | Bid | Offer | Chg. | Yield |
|---|---|---|---|---|---|
| **U.S. DOLLAR STRAIGHTS** | | | | | |
| Abbey Natl Treasury 5 97 | 1000 | 98⅝ | 98⅞ | | 6.09 |
| Abbey Natl Treasury 6½ 03 | 1000 | 99⅛ | 99⅜ | +⅛ | 6.64 |
| ABN Ambro Bank 7¼ 05 | 1000 | 103¼ | 103½ | +¼ | 6.90 |
| African Dev Bk 7⅜ 23 | 500 | 100¾ | 101¼ | +⅛ | 7.31 |
| Alberta Province 7⅝ 98 | 1000 | 104⅛ | 104⅜ | +⅛ | 6.11 |
| Austria 8½ 00 | 400 | 108⅛ | 108½ | +⅛ | 6.28 |
| Baden-Wuertt L-Fin 8⅛ 00 | 1000 | 105½ | 105¾ | | 6.34 |
| Bank Ned Gemeenten 7 99 | 1000 | 102⅞ | 103⅛ | +⅛ | 6.14 |
| Bayer Vereinsbk 8⅛ 00 | 500 | 105½ | 105¾ | | 6.34 |
| Belgium 5½ 03 | 1000 | 93¾ | 93⅞ | +⅛ | 6.58 |
| BFCE 7¼ 97 | 150 | 102¼ | 102½ | | 6.10 |
| British Columbia 7¾ 02 | 500 | 105⅝ | 105⅞ | +⅛ | 6.49 |
| British Gas 0 21 | 1500 | 14⅜ | 14⅝ | +¼ | 7.72 |
| Canada 6½ 97 | 2000 | 100⅞ | 101 | +⅛ | 5.94 |
| Cheung Kong Fin 5½ 98 | 500 | 95¼ | 95¾ | +¼ | 7.32 |
| China 6½ 04 | 1000 | 95½ | 96⅛ | +⅜ | 7.35 |
| Credit Foncier 9½ 99 | 300 | 109½ | 109⅞ | | 6.28 |
| Denmark 5¾ 98 | 1000 | 99½ | 99⅞ | | 5.96 |
| East Japan Railway 6⅝ 04 | 600 | 100 | 100¼ | +⅛ | 6.62 |
| ECSC 8¼ 96 | 193 | 102⅜ | 102¾ | | 6.05 |
| EIB 6 04 | 500 | 96⅞ | 97⅛ | +⅛ | 6.49 |
| EIB 9¼ 97 | 1000 | 106⅜ | 106⅝ | +⅛ | 5.94 |
| Elec de France 9 98 | 200 | 106¼ | 106⅝ | | 6.14 |
| Ex-Im Bank Japan 8 02 | 500 | 108¼ | 108⅝ | +⅛ | 6.42 |
| Export Dev Corp 9½ 98 | 150 | 108¼ | 108½ | +⅛ | 6.16 |
| Fed Home Loan 7⅛ 99 | 1500 | 103⅛ | 103⅝ | +⅛ | 6.21 |
| Federal Natl Mort 7.40 04 | 1500 | 106½ | 106¾ | +⅛ | 6.52 |
| Finland 6¾ 97 | 3000 | 101½ | 101¾ | | 6.08 |
| Ford Motor Credit 6¼ 98 | 1500 | 100 | 100¼ | | 6.34 |
| Ind Bk Japan Fin 7⅞ 97 | 200 | 101⅞ | 102¼ | -⅛ | 6.51 |
| INTER-AMER DEV 7½ 05 | 500 | 105⅝ | 106¼ | +⅛ | 6.53 |
| Intl Finance 5¼ 99 | 500 | 97¾ | 98 | | 6.02 |
| Italy 6⅞ 23 | 3500 | 91⅝ | 92 | +⅛ | 7.75 |
| Japan Dev Bk 8⅜ 01 | 500 | 108¾ | 109⅛ | +⅛ | 6.36 |
| Korea Elec Power 6⅜ 03 | 1350 | 97½ | 98 | +¼ | 6.69 |
| LTCB Fin 8 97 | 200 | 101¾ | 102 | | 6.46 |
| Matsushita Elec 7¼ 02 | 1000 | 104¼ | 104⅝ | +⅛ | 6.57 |
| Norway 7¼ 97 | 1000 | 101¾ | 102 | | 5.98 |
| Ontario 7⅜ 03 | 3000 | 104½ | 104¾ | +⅛ | 6.70 |
| Oster Kontrollbank 8½ 01 | 330 | 109⅜ | 109¾ | +⅛ | 6.39 |
| Portugal 5¾ 03 | 1000 | 95¼ | 95½ | | 6.63 |
| Quebec Hydro 9¾ 98 | 150 | 108½ | 108⅞ | | 6.53 |
| Quebec Prov 9 98 | 200 | 105⅝ | 106 | | 6.47 |
| Sainsbury 9⅛ 98 | 150 | 102¾ | 103 | | 6.20 |
| SAS 10 99 | 200 | 109⅝ | 110 | +¼ | 6.71 |
| SNCF 9½ 98 | 150 | 108¼ | 108⅝ | | 6.18 |
| Spain 6½ 99 | 1500 | 100⅞ | 101⅛ | | 6.25 |
| Sweden 6½ 03 | 2000 | 100⅜ | 100⅝ | +⅛ | 6.54 |
| Tennessee Valley 6⅛ 05 | 2000 | 99⅝ | 99¾ | +⅛ | 6.50 |
| Tokyo Elec Power 6⅛ 03 | 1000 | 97⅛ | 97⅜ | +⅛ | 6.60 |
| Tokyo Metropolis 8¼ 96 | 200 | 102⅛ | 102⅜ | | 6.16 |
| Toyota Motor 5⅝ 98 | 1500 | 99⅛ | 99½ | | 6.00 |
| United Kingdom 7¼ 02 | 3000 | 105 | 105¼ | +⅛ | 6.36 |
| World Bank 6⅜ 05 | 1500 | 100⅛ | 100¼ | +⅛ | 6.46 |
| World Bank 8⅜ 99 | 1500 | 108⅛ | 108¼ | +⅛ | 6.15 |
| World Bank 8¾ 97 | 1500 | 104⅛ | 104⅜ | | 5.74 |
| **DEUTSCHE MARK STRAIGHTS** | | | | | |
| Austria 6½ 24 | 2000 | 88¼ | 88⅝ | +⅜ | 7.51 |
| Baden-Wuertt L-Finance 6 99 | 2000 | 102⅜ | 102½ | +⅛ | 5.25 |
| Credit Foncier 7¼ 03 | 3000 | 102 | 102¼ | +⅛ | 6.89 |
| Denmark 6⅛ 98 | 2000 | 102⅞ | 103⅛ | | 4.88 |
| Depfa Finance 6⅛ 03 | 1500 | 97⅛ | 97¼ | +⅛ | 6.65 |
| Deutsche Bk Fin 7½ 03 | 2000 | 103¾ | 104⅛ | +⅛ | 6.82 |
| EEC 6½ 00 | 2900 | 103 | 103⅛ | | 5.70 |
| EIB 6¼ 00 | 1500 | 102⅜ | 102⅝ | +⅛ | 5.63 |
| Finland 7½ 00 | 3000 | 106¼ | 106½ | +⅛ | 5.81 |
| Italy 7¼ 98 | 5000 | 104⅞ | 105 | +⅛ | 4.98 |
| LKB Baden-Wuertt 6½ 08 | 2250 | 94¼ | 94⅞ | +¼ | 7.13 |
| Norway 6⅛ 98 | 1500 | 103⅛ | 103⅜ | +⅛ | 4.75 |
| Ontario 6¼ 04 | 1500 | 96 | 96⅛ | +⅛ | 6.89 |
| Spain 7¼ 03 | 4000 | 103¼ | 103⅞ | +⅛ | 6.67 |
| Sweden 8 97 | 2500 | 105¼ | 105½ | | 4.78 |
| United Kingdom 7⅛ 97 | 5500 | 104⅞ | 105 | | 4.60 |
| Volkswagen Intl Fin 7 03 | 1000 | 102⅛ | 102⅜ | +⅛ | 6.63 |
| World Bank 0 15 | 2000 | 26 | 26¼ | +¼ | 6.89 |
| World Bank 5⅞ 03 | 3000 | 95⅞ | 95⅞ | +⅛ | 6.54 |
| **SWISS FRANC STRAIGHTS** | | | | | |
| Asian Dev Bank 6 10 | 100 | 110 | | | 5.04 |
| Austria 4½ 00 | 1000 | 104¼ | 104½ | | 3.43 |
| Council Europe 4¾ 98 | 250 | 103⅛ | 103¾ | | 3.30 |
| Denmark 4¼ 99 | 1000 | 103⅜ | 103⅝ | | 3.33 |
| EIB 6¾ 04 | 300 | 113 | 113¼ | | 4.93 |
| Elec de France 7¼ 06 | 100 | 114¼ | | | 5.40 |
| Finland 7¼ 99 | 300 | 112 | 112¾ | | 3.98 |
| Hyundai Motor Fin 8½ 97 | 100 | 108 | 109 | | 4.12 |
| Iceland 7⅞ 00 | 100 | 114¼ | 116 | | 4.29 |
| Kobe 6⅜ 01 | 240 | 110½ | 111 | | 4.29 |
| Ontario 6¼ 03 | 400 | 109 | 109½ | | 4.76 |
| Quebec Hydro 5 08 | 100 | 96½ | 97 | | 5.39 |
| SNCF 7 04 | 450 | 115¾ | 116 | | 4.81 |
| World Bank 5 03 | 150 | 102¼ | 102¾ | | 4.65 |
| World Bank 7 01 | 600 | 113¾ | 114 | | 4.11 |
| **YEN STRAIGHTS** | | | | | |
| Belgium 5 99 | 75000 | 113⅜ | 113⅝ | | 1.66 |
| CREDIT FONCIER 4¾ 02 | 75000 | 112⅜ | 112⅝ | +¼ | 2.74 |
| EIB 6⅝ 00 | 100000 | 120½ | 120¾ | +⅛ | 1.79 |
| Ex-Im Bank Japan 4⅜ 03 | 105000 | 111⅞ | 112⅛ | +⅛ | 2.70 |
| Inter Amer Dev 7¼ 00 | 30000 | 123½ | 123¾ | +⅛ | 1.86 |
| Italy 3½ 01 | 300000 | 105⅛ | 105¼ | +⅛ | 2.55 |
| Japan Dev Bk 5 99 | 100000 | 113½ | 113⅝ | +⅛ | 1.49 |
| Japan Dev Bk 6½ 01 | 120000 | 123⅛ | 123½ | +⅛ | 2.27 |
| Norway 5⅜ 97 | 150000 | 108⅜ | 108¾ | | 0.49 |
| SNCF 6¾ 00 | 30000 | 120⅞ | 121⅛ | +⅛ | 1.78 |
| Spain 5¼ 02 | 125000 | 119⅛ | 119⅜ | -⅛ | 2.51 |
| Sweden 4⅝ 98 | 150000 | 108⅜ | 108⅝ | | 0.98 |
| World Bank 5¼ 02 | 250000 | 117½ | 117⅝ | +⅛ | 2.33 |
| **OTHER STRAIGHTS** | | | | | |
| Finland 8 04 LFr | 5000 | 104 | 105 | -⅛ | 7.37 |
| Genfinance Lux 9⅛ 99 LFr | 1000 | 108 | 109 | | 6.49 |
| IKB Deut Industbk 8½ 03 LFr | 3000 | 105¼ | 106¼ | | 7.52 |
| ABN Amro 6⅝ 00 Fl | 1000 | 103 | 103⅜ | | 5.84 |
| Bank Ned Gemeenten 7 03 Fl | 1500 | 102¾ | 103⅛ | | 6.51 |
| Bell Canada 10⅝ 99 C$ | 150 | 109⅛ | 109⅝ | +⅛ | 7.73 |
| Abbey Natl Treasury 8 03 £ | 1000 | 97¾ | 98⅛ | +⅛ | 8.40 |
| Alliance Leics 11⅜ 97 £ | 100 | 105⅛ | 105½ | | 7.12 |
| British Land 8⅞ 23 £ | 150 | 91¾ | 92¼ | +¼ | 9.98 |
| Denmark 6¾ 98 £ | 800 | 98½ | 98¾ | +⅛ | 7.33 |
| EIB 8 03 £ | 1000 | 98⅞ | 99 | +½ | 8.19 |
| Halifax 10⅜ 97 £ | 100 | 104⅜ | 104⅝ | +⅛ | 8.98 |
| Hanson 10⅜ 97 £ | 500 | 105⅝ | 105⅞ | +½ | 7.31 |
| HSBC Holdings 11.69 02 £ | 153 | 114⅛ | 114⅜ | +⅜ | 8.79 |
| Italy 10½ 14 £ | 400 | 108¾ | 109⅛ | +⅛ | 9.47 |
| Japan Dev Bk 7 00 £ | 200 | 97¼ | 97½ | +⅛ | 7.68 |

FLOATING RATE NOTES

CONVERTIBLE BONDS

STRAIGHT BONDS: The yield is the yield to redemption of the bid-price; the amount issued is in millions of currency units. Chg. day=Change on day.

FLOATING RATE NOTES: Denominated in dollars unless otherwise indicated. Coupon shown is minimum. Spread=Margin above six-month offered rate (three-month §above mean rate) for US dollars. C.cpn=The current coupon.

CONVERTIBLE BONDS: Denominated in dollars unless otherwise indicated. Cnv. price=Nominal amount of bond per share expressed in currency of share at conversion rate fixed at issue. Prem=Percentage premium of the current effective price of acquiring shares via the bond over the most recent price of the shares.

© The Financial Times Ltd., 1995. Reproduction in whole or in part in any form not permitted without written consent. Data supplied by International Securities Market Association.

## UK GILTS PRICES

| Notes | Yield Int | Yield Red | Price £ | + or – | 1995 High | 1995 Low |
|---|---|---|---|---|---|---|
| horts" (Lives up to Five Years) | | | | | | |
| 'reas 12¾pc 1995‡‡ | 12.67 | 6.76 | 100⅝ | — | 104⅞ | 100⅝ |
| 14pc 1996 | 13.71 | 6.44 | 102⅛ | — | 106⅞ | 102⅛ |
| 15¼pc 1996‡‡ | 14.53 | 6.49 | 104⅞xd | — | 109⅝ | 104⅞ |
| xch 13¼pc 1996‡‡ | 12.75 | 6.58 | 103⅞ | — | 107¼ | 103⅞ |
| onversion 10pc 1996 | 9.65 | 6.45 | 103⅝ | — | 104⅞ | 103⅛ |
| Conv 9½pc 2005 | 8.68 | 8.04 | 109⅝xd | +⅜ | 111⅛ | 103⅝ |
| Treas 12½pc 2003-5 | 9.90 | 8.02 | 126¼ | +⅛ | 128⅛ | 119⅝ |
| Treas 8½pc 2005‡‡ | 8.23 | 8.00 | 103⅛ | +⅛ | 105⅝ | 97⅝ |
| 7½pc 2006‡‡ | 7.79 | 8.00 | 96¼ | +⅜ | 96⅞ | 85⅞ |
| 7¾pc 2006‡‡ | 8.01 | 8.07 | 96¾ | — | 98⅞ | 92⅛ |

| Notes | Yield (1) | Yield (2) | Price £ | + or – | 1995 High | 1995 Low |
|---|---|---|---|---|---|---|
| **Index-Linked (b)** | | | | | | |
| 2pc '96 (67.9) | 0.48 | 3.11 | 212⅝ | +⅛ | 213⅞ | 201⅞ |
| 4⅝pc '98‡‡ (135.6) | 1.96 | 3.08 | 111⅝xd | +⅛ | 112⅝ | 108⅝ |
| 2½pc '01 (78.3) | 3.04 | 3.52 | 176⅝ | — | 177⅝ | 165⅝ |
| 2½pc '03 (78.8) | 3.20 | 3.57 | 172⅝ | +⅛ | 173⅞ | 161⅝ |
| 4⅝pc '04‡‡ (135.6) | 3.22 | 3.58 | 114⅝xd | — | 115⅝ | 108⅝ |

Prospective real redemption rate on projected inflation of (1) 10% and (2) 5%. (b) Figures in parentheses show RPI base for indexing (ie 8 months prior to issue) and have been adjusted to reflect rebasing of RPI to 100 in February 1987. Conversion factor 3.945. RPI for January 1986: 146.0 and for August 1995: 149.9.

### Other Fixed Interest

'Tap' stock. ‡‡ Tax-free to non-residents on application. E Auction basis. xd Ex dividend. Closing mid-prices are shown in pounds per £100 nominal of stock.

هكذا من الأصل

هكذا من الأصل

# CURRENCIES AND MONEY

## MARKETS REPORT

# Dollar makes further gains ahead of G7 meeting

By Philip Gawith

The dollar yesterday made good gains against the D-Mark and yen in trading which appeared to be technically driven rather than a reflection of any re-assessment of the economic fundamentals underlying the currency.

The dollar's advance came after New York markets opened, amid fairly thin volumes, leaving analysts disinclined to attach much significance to the move. It closed in London at DM1.4393, from DM1.4299, and at Y101.305 from Y100.585.

Overall, activity remained very subdued, with most interest focused on the likely verdict in the O.J. Simpson murder trial, and the disparaging comments uttered by Mr Robin Cook, the Labour party's foreign affairs spokesman, at the party conference in Brighton.

Mr Cook told the conference that he was "not worried about the jobs of men in red braces speculating against the pound. If a single currency puts a few speculators out of work, that is one price I am prepared to pay."

The dollar did actually lose half a pfennig, from DM1.44 to DM1.4350, in the ten minutes after the O.J. Simpson verdict was delivered. Analysts said there was a "lack of buying interest", a euphemism, perhaps, for "everybody's watching TV"!

Law and politics aside, the main focus of activity was with the US's leading trade partners, Canada and Mexico. Whereas the Bank of Canada was seen trying to curb the further rise in the Canadian dollar, buoyed by the expectation that Quebec will not vote in favour of secession later this month, the Mexican authorities faced the opposite problem, with the peso sliding against a backdrop of falling equity markets and political rumours. It opened in Mexico around 6.5 to the dollar, compared to a London close of 6.38 on Monday.

Although sterling lost ground against the firmer dollar, it made further advances against the D-Mark, closing at DM2.275, from DM2.2693. Against the dollar it finished at $1.5807 from $1.5871. The sceptical tone of the Emu debate, which has moved towards the UK's position, appears to have helped the pound, which is also one of the stronger candidates for meeting the Maastricht convergence criteria.

European rates were fairly subdued. The Portuguese escudo finished little changed against the D-Mark, at Es104.7, from Es104.6, and Es105.1 on Friday ahead of the weekend elections which saw a change in government with the Socialists winning power. Mr Antonio de Sousa, governor of the central bank, said the new government appeared to have a "clear commitment" to currency stability.

■ The dollar's rally appeared at least in part to reflect the view that the weekend G7 summit will again see leading industrial nations united behind the desirability of a stronger dollar.

Not everybody, however, is so sanguine. Mr Carl Weinberg, chief economist at High Frequency Economics in New York, is one who believes that the G7 is a long way removed from the sort of co-operation seen ten years ago with the Plaza Accord. Then, the G5 leaders were politically secure, and presiding over expanding economies. The situation now is very different. "This is no time to expect G7 governments to subjugate national interests to a common global objective," he said.

Mr Weinberg continued: "The BOJ has taken it upon itself to defend the dollar, and they need no resources from the other G7 governments to support it as long as they wish. Our theory is that the dollar will slide as the BOJ loses incentive to keep it up. Self-serving interests, not the value of the dollar, will drive the discussion at this G7 confab."

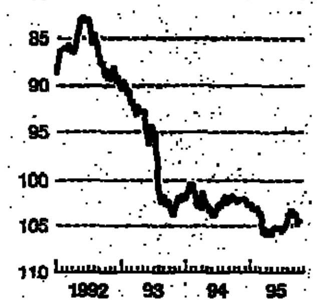
One factor which may serve as a countervailing force is the uncertainty in Europe. Some observers believe this could help the dollar, although past experience suggests it is as likely to result in flows into the D-Mark, at the dollar's expense.

In the short term, traders are likely to want to enter the weekend with fairly square positions on the dollar to avoid the risk of falling victim to any central bank initiative arising from the G7.

■ The Bank of England cleared a £750m daily money market shortage. Three month LIBOR was unchanged at 6¾ per cent.

**Escudo**

Against the D-Mark (escudos per DM)



Source: FT Extel

**■ Pound in New York**

| Oct 3 | Latest | Prev. close |
|---|---|---|
| £ spot | 1.5800 | 1.5897 |
| 1 mth | 1.5788 | 1.5885 |
| 3 mth | 1.5770 | 1.5978 |
| 1 yr | 1.5687 | 1.5782 |

**■ OTHER CURRENCIES**

| Oct 3 | £ | $ |
|---|---|---|
| Czech Rp | 41.9280 - 41.9850 | 26.5300 - 26.5450 |
| Hungary | 206.843 - 206.987 | 130.880 - 130.930 |
| Iran | 4742.70 - 4741.20 | 3000.00 - 3000.00 |
| Kuwait | 0.4727 - 0.4730 | 0.2991 - 0.2992 |
| Poland | 3.8720 - 3.8748 | 2.4500 - 2.4510 |
| Russia | 7101.40 - 7103.90 | 4492.00 - 4495.00 |
| U.A.E. | 5.8039 - 5.8066 | 3.6724 - 3.6730 |

## POUND SPOT FORWARD AGAINST THE POUND

| Oct 3 | | Closing mid-point | Change on day | Bid/offer spread | Day's Mid high | Day's Mid low | One month Rate | One month %PA | Three months Rate | Three months %PA | One year Rate | One year %PA | Bank of Eng. Index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Europe** | | | | | | | | | | | | | |
| Austria | (Sch) | 16.0101 | +0.0396 | 031 - 170 | 16.0426 | 15.9324 | 15.9797 | 2.3 | 15.9211 | 2.2 | - | - | 106.7 |
| Belgium | (BFr) | 46.7714 | +0.0962 | 324 - 104 | 46.9050 | 46.5020 | 46.6764 | 2.4 | 46.4984 | 2.4 | 45.7514 | 2.2 | 109.1 |
| Denmark | (DKr) | 8.8224 | +0.0269 | 186 - 262 | 8.8397 | 8.7765 | 8.8148 | 1.0 | 8.7982 | 1.1 | 8.7357 | 1.0 | 109.8 |
| Finland | (FM) | 6.8134 | +0.0092 | 076 - 192 | 6.8410 | 6.7880 | 6.809 | 0.8 | 6.8009 | 0.7 | - | - | 88.3 |
| France | (FFr) | 7.8444 | +0.0218 | 419 - 468 | 7.8717 | 7.7966 | 7.8391 | 0.8 | 7.8278 | 0.8 | 7.7711 | 0.9 | 110.0 |
| Germany | (DM) | 2.2750 | +0.0057 | 740 - 759 | 2.2808 | 2.2640 | 2.2698 | 2.7 | 2.2605 | 2.6 | 2.2195 | 2.4 | 111.6 |
| Greece | (Dr) | 370.584 | +1.579 | 446 - 721 | 371.433 | 367.695 | - | - | - | - | - | - | 67.5 |
| Ireland | (I£) | 0.9806 | +0.0001 | 801 - 810 | 0.9829 | 0.9787 | 0.9798 | 1.0 | 0.9785 | 0.9 | 0.9753 | 0.5 | 98.0 |
| Italy | (L) | 2561.51 | +5.37 | 071 - 231 | 2582.30 | 2556.36 | 2568.76 | -3.4 | 2583.66 | -3.5 | 2651.81 | -3.5 | 69.8 |
| Luxembourg | (LFr) | 46.7714 | +0.0962 | 324 - 104 | 46.9050 | 46.5020 | 46.6764 | 2.4 | 46.4984 | 2.4 | 45.7514 | 2.2 | 109.1 |
| Netherlands | (Fl) | 2.5485 | +0.0074 | 473 - 497 | 2.5602 | 2.5328 | 2.5421 | 3.0 | 2.5311 | 2.7 | 2.4849 | 2.5 | 109.1 |
| Norway | (NKr) | 9.9842 | +0.0287 | 802 - 881 | 10.0084 | 9.9324 | 9.9718 | 1.5 | 9.9499 | 1.4 | 9.8744 | 1.1 | 99.3 |
| Portugal | (Es) | 238.346 | +0.955 | 230 - 463 | 238.753 | 235.889 | 238.886 | -2.7 | 240.106 | -3.0 | - | - | 95.4 |
| Spain | (Pta) | 196.522 | +1.045 | 412 - 632 | 196.961 | 195.288 | 197.022 | -3.1 | 197.962 | -2.9 | 202.362 | -3.0 | 80.7 |
| Sweden | (SKr) | 11.0298 | +0.0156 | 201 - 394 | 11.1304 | 11.0130 | 11.032 | -0.2 | 11.0368 | -0.2 | 11.0599 | -0.3 | 82.8 |
| Switzerland | (SFr) | 1.8318 | +0.0065 | 307 - 329 | 1.8407 | 1.8238 | 1.8247 | 4.7 | 1.8129 | 4.1 | 1.7599 | 3.9 | 116.1 |
| UK | (£) | - | - | - | - | - | - | - | - | - | - | - | 85.2 |
| Ecu | - | 1.2282 | +0.0039 | 277 - 287 | 1.2299 | 1.2211 | 1.2271 | 1.1 | 1.2248 | 1.1 | 1.2155 | 1.0 | - |
| SDR† | - | 1.05778 | - | - | - | - | - | - | - | - | - | - | - |
| **Americas** | | | | | | | | | | | | | |
| Argentina | (Peso) | 1.5804 | -0.0064 | 801 - 807 | 1.5944 | 1.5780 | - | - | - | - | - | - | - |
| Brazil | (R$) | 1.5144 | +0.0018 | 140 - 147 | 1.5273 | 1.5119 | - | - | - | - | - | - | - |
| Canada | (C$) | 2.1011 | -0.0237 | 004 - 018 | 2.1288 | 2.0978 | 2.1002 | 0.5 | 2.1 | 0.2 | 2.1051 | -0.2 | 86.1 |
| Mexico | (New Peso) | 10.2980 | +0.1726 | 884 - 075 | 10.3443 | 10.2546 | - | - | - | - | - | - | - |
| USA | ($) | 1.5807 | -0.0064 | 804 - 809 | 1.5946 | 1.5780 | 1.5795 | 0.9 | 1.5776 | 0.8 | 1.5692 | 0.7 | 93.1 |
| **Pacific/Middle East/Africa** | | | | | | | | | | | | | |
| Australia | (A$) | 2.0645 | -0.0162 | 635 - 655 | 2.0674 | 2.0628 | 2.0658 | -0.8 | 2.0686 | -0.8 | 2.0834 | -0.9 | 67.9 |
| Hong Kong | (HK$) | 12.2192 | -0.0519 | 165 - 219 | 12.3271 | 12.1995 | 12.2157 | 0.3 | 12.2033 | 0.5 | 12.1697 | 0.4 | - |
| India | (Rs) | 53.4655 | -0.2641 | 385 - 925 | 53.8550 | 53.4940 | - | - | - | - | - | - | - |
| Israel | (Shk) | 4.7675 | -0.0019 | 635 - 715 | 4.7927 | 4.7605 | - | - | - | - | - | - | - |
| Japan | (Y) | 160.128 | +0.494 | 063 - 193 | 160.700 | 159.140 | 159.213 | 6.9 | 157.603 | 6.3 | 150.678 | 5.9 | 142.2 |
| Malaysia | (M$) | 3.9937 | -0.0109 | 924 - 949 | 4.0192 | 3.9689 | - | - | - | - | - | - | - |
| New Zealand | (NZ$) | 2.4068 | -0.0017 | 051 - 084 | 2.4104 | 2.4050 | 2.4127 | -3.0 | 2.422 | -2.5 | 2.4476 | -1.7 | 100.9 |
| Philippines | (Peso) | 41.0811 | -0.2595 | 430 - 192 | 41.1200 | 41.0418 | - | - | - | - | - | - | - |
| Saudi Arabia | (SR) | 5.9262 | -0.0243 | 271 - 293 | 5.9804 | 5.9184 | - | - | - | - | - | - | - |
| Singapore | (S$) | 2.2651 | -0.0068 | 639 - 662 | 2.2771 | 2.2621 | - | - | - | - | - | - | - |
| South Africa | (R) | 5.7898 | -0.0177 | 877 - 919 | 5.8418 | 5.7813 | - | - | - | - | - | - | - |
| South Korea | (Won) | 1214.49 | -4.92 | 422 - 476 | 1225.13 | 1212.54 | - | - | - | - | - | - | - |
| Taiwan | (T$) | 42.2840 | -0.3847 | 631 - 049 | 42.7086 | 42.2273 | - | - | - | - | - | - | - |
| Thailand | (Bt) | 39.7376 | -0.145 | 155 - 596 | 40.0520 | 39.6870 | - | - | - | - | - | - | - |

† Rates for Oct 2. Bid/offer spreads in the Pound Spot table show only the last three decimal places. Forward rates are not directly quoted to the market but are implied by current interest rates. Sterling index calculated by the Bank of England. Base average 1990 = 100. Index rebased 1/2/95. Bid, Offer and Mid-rates in both this and the Dollar Spot tables derived from THE WM/REUTERS CLOSING SPOT RATES. Some values are rounded by the F.T.

## DOLLAR SPOT FORWARD AGAINST THE DOLLAR

| Oct 3 | | Closing mid-point | Change on day | Bid/offer spread | Day's mid high | Day's mid low | One month Rate | One month %PA | Three months Rate | Three months %PA | One year Rate | One year %PA | J.P Morgan index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Europe** | | | | | | | | | | | | | |
| Austria | (Sch) | 10.1288 | +0.0658 | 260 - 316 | 10.1350 | 10.0370 | 10.1137 | 1.8 | 10.0836 | 1.8 | 9.9743 | 1.5 | 106.7 |
| Belgium | (BFr) | 29.5900 | +0.18 | 700 - 100 | 29.6100 | 29.2800 | 29.549 | 1.7 | 29.47 | 1.6 | 29.17 | 1.4 | 108.7 |
| Denmark | (DKr) | 5.5815 | +0.0395 | 800 - 830 | 5.5840 | 5.5302 | 5.5823 | -0.2 | 5.578 | 0.3 | 5.5875 | -0.1 | 109.2 |
| Finland | (FM) | 4.3105 | +0.0231 | 075 - 135 | 4.3167 | 4.2654 | 4.3101 | 0.1 | 4.309 | 0.1 | 4.3045 | 0.1 | 87.5 |
| France | (FFr) | 4.9628 | +0.0338 | 620 - 635 | 4.9695 | 4.9190 | 5.0481 | -20.6 | 4.9581 | 0.4 | 4.9458 | 0.3 | 109.7 |
| Germany | (DM) | 1.4393 | +0.0094 | 389 - 398 | 1.4400 | 1.4257 | 1.4371 | 1.8 | 1.4327 | 1.8 | 1.4142 | 1.7 | 111.0 |
| Greece | (Dr) | 234.450 | +1.94 | 400 - 500 | 234.610 | 231.080 | 236.175 | -8.8 | 239.375 | -8.4 | 252.85 | -7.8 | 67.2 |
| Ireland | (I£) | 1.6120 | -0.0068 | 115 - 125 | 1.6254 | 1.6105 | 1.6122 | -0.1 | 1.6123 | -0.1 | 1.6188 | -0.4 | - |
| Italy | (L) | 1620.54 | +9.91 | 029 - 079 | 1625.20 | 1612.55 | 1627.29 | -5.0 | 1639.34 | -4.6 | 1696.54 | -4.7 | 69.4 |
| Luxembourg | (LFr) | 29.5900 | +0.18 | 700 - 100 | 29.6100 | 29.2800 | 29.549 | 1.7 | 29.47 | 1.6 | 29.17 | 1.4 | 108.7 |
| Netherlands | (Fl) | 1.6123 | +0.0111 | 118 - 128 | 1.6167 | 1.5969 | 1.6097 | 2.0 | 1.6046 | 1.9 | 1.5846 | 1.7 | 108.6 |
| Norway | (NKr) | 6.3165 | +0.0455 | 150 - 180 | 6.3200 | 6.2413 | 6.3127 | 0.7 | 6.3065 | 0.6 | 6.2965 | 0.3 | 98.6 |
| Portugal | (Es) | 150.790 | +1.21 | 740 - 840 | 150.850 | 148.270 | 151.255 | -3.7 | 152.265 | -3.9 | 156.89 | -4.0 | 95.5 |
| Spain | (Pta) | 124.330 | +1.16 | 280 - 380 | 124.380 | 123.150 | 124.71 | -3.7 | 125.48 | -3.7 | 128.975 | -3.7 | 80.7 |
| Sweden | (SKr) | 6.9780 | +0.038 | 730 - 830 | 7.0023 | 6.9539 | 6.9954 | -3.0 | 7.032 | -3.1 | 7.2005 | -3.2 | 81.8 |
| Switzerland | (SFr) | 1.1589 | +0.0068 | 584 - 594 | 1.1610 | 1.1470 | 1.1553 | 3.7 | 1.1492 | 3.3 | 1.1214 | 3.2 | 115.5 |
| UK | (£) | 1.5807 | -0.0064 | 804 - 809 | 1.5946 | 1.5780 | 1.5795 | 0.9 | 1.5776 | 0.8 | 1.5692 | 0.7 | 84.8 |
| Ecu | - | 1.2870 | -0.0092 | 866 - 873 | 1.2981 | 1.2860 | 1.2874 | -0.4 | 1.2881 | -0.3 | 1.2904 | -0.3 | - |
| SDR† | - | 0.66855 | - | - | - | - | - | - | - | - | - | - | - |
| **Americas** | | | | | | | | | | | | | |
| Argentina | (Peso) | 0.9998 | - | 998 - 999 | 1.0000 | 0.9996 | - | - | - | - | - | - | - |
| Brazil | (R$) | 0.9581 | +0.005 | 580 - 581 | 0.9582 | 0.9580 | - | - | - | - | - | - | - |
| Canada | (C$) | 1.3293 | -0.0096 | 290 - 295 | 1.3383 | 1.3276 | 1.3297 | -0.4 | 1.3311 | -0.5 | 1.3413 | -0.9 | 84.3 |
| Mexico | (New Peso) | 6.5150 | +0.135 | 100 - 200 | 6.5900 | 6.5100 | 6.5172 | -0.4 | 6.5204 | -0.3 | 6.5253 | -0.2 | - |
| USA | ($) | - | - | - | - | - | - | - | - | - | - | - | 93.8 |
| **Pacific/Middle East/Africa** | | | | | | | | | | | | | |
| Australia | (A$) | 1.3060 | -0.005 | 057 - 065 | 1.3085 | 1.2965 | 1.3078 | -1.7 | 1.3114 | -1.7 | 1.3311 | -1.9 | 88.1 |
| Hong Kong | (HK$) | 7.7305 | -0.0015 | 300 - 310 | 7.7325 | 7.7300 | 7.7321 | -0.2 | 7.734 | -0.2 | 7.7542 | -0.3 | - |
| India | (Rs) | 33.8250 | -0.03 | 500 - 000 | 33.9500 | 33.7500 | 33.975 | -5.3 | 34.28 | -5.4 | 35.75 | -5.7 | - |
| Israel | (Shk) | 3.0162 | +0.011 | 141 - 182 | 3.0185 | 3.0014 | - | - | - | - | - | - | - |
| Japan | (Y) | 101.305 | +0.72 | 280 - 330 | 101.470 | 100.150 | 100.81 | 5.9 | 99.89 | 5.6 | 96.015 | 5.2 | 143.2 |
| Malaysia | (M$) | 2.5266 | +0.0033 | 262 - 270 | 2.5270 | 2.5190 | 2.5268 | 0.0 | 2.527 | -0.1 | 2.5348 | -0.3 | - |
| New Zealand | (NZ$) | 1.5225 | +0.005 | 218 - 235 | 1.5253 | 1.5116 | 1.5266 | -3.2 | 1.5341 | -3.0 | 1.5588 | -2.4 | - |
| Philippines | (Peso) | 25.9900 | -0.065 | 700 - 100 | 26.0100 | 25.9700 | - | - | - | - | - | - | - |
| Saudi Arabia | (SR) | 3.7505 | -0.0002 | 504 - 506 | 3.7506 | 3.7501 | 3.7511 | -0.2 | 3.7519 | -0.1 | 3.7551 | -0.1 | - |
| Singapore | (S$) | 1.4330 | +0.0015 | 325 - 335 | 1.4335 | 1.4275 | 1.4296 | 2.9 | 1.4233 | 2.7 | 1.3985 | 2.4 | - |
| South Africa | (R) | 3.6630 | +0.0037 | 622 - 637 | 3.6668 | 3.6575 | 3.6883 | -8.3 | 3.7383 | -8.2 | 3.9895 | -8.4 | - |
| South Korea | (Won) | 768.350 | - | 300 - 400 | 768.500 | 768.000 | 771.35 | -4.7 | 774.85 | -3.4 | 793.35 | -3.3 | - |
| Taiwan | (T$) | 26.7510 | -0.1345 | 420 - 600 | 26.8600 | 26.7300 | 26.771 | -0.9 | 26.811 | -0.9 | - | - | - |
| Thailand | (Bt) | 25.1400 | +0.01 | 300 - 500 | 25.1500 | 25.1150 | 25.2275 | -4.2 | 24.875 | 4.2 | 26.095 | -3.8 | - |

† SDR rate per $ for Oct 2. Bid/offer spreads in the Dollar Spot table show only the last three decimal places. Forward rates are not directly quoted to the market but are implied by current interest rates. UK, Ireland & ECU are quoted in US currency. J.P. Morgan nominal indices Oct 2. Base average 1990=100

## WORLD INTEREST RATES

### MONEY RATES

| October 3 | Over night | One month | Three mths | Six mths | One year | Lomb. Inter. | Dis. rate | Repo rate |
|---|---|---|---|---|---|---|---|---|
| Belgium | 4⅛ | 4⅛ | 4⅜ | 4⅜ | 4⅞ | 8.00 | 3.50 | - |
| week ago | 4⅛ | 4⅛ | 4⅞ | 4⅜ | 4⅞ | 8.00 | 3.50 | - |
| France | 6⅝ | 6⅝ | 6¼ | 6⅛ | 6⅛ | 5.00 | - | 6.15 |
| week ago | 5¾ | 6¼ | 6¼ | 6¼ | 6¼ | 5.00 | - | 6.15 |
| Germany | 4⅛ | 4⅛ | 4 3/32 | 4 1/32 | 4⅛ | 5.50 | 3.50 | 4.08 |
| week ago | 4 | 4⅛ | 4 | 4 | 4 | 5.50 | 3.50 | 4.12 |
| Ireland | 5⅞ | 6¼ | 5⅞ | 5⅞ | 6¼ | - | - | 6.25 |
| week ago | 5⅞ | 5¾ | 5⅞ | 6 | 6⅜ | - | - | 6.25 |
| Italy | 10⅝ | 10⅝ | 10⅞ | 10⅞ | 10⅞ | - | 9.00 | 10.39 |
| week ago | 10⅝ | 10⅝ | 10¾ | 10⅞ | 10⅝ | - | 9.00 | 10.29 |
| Netherlands | 3⅞ | 3⅞ | 3⅞ | 3⅞ | 4 | - | 3.50 | 3.80 |
| week ago | 3⅞ | 3⅞ | 3⅞ | 3⅞ | 3⅞ | - | 3.50 | - |
| Switzerland | 2⅛ | 2⅜ | 2⅜ | 2⅜ | 2⅜ | 5.00 | 2.00 | - |
| week ago | 2⅛ | 2¾ | 2½ | 2½ | 2½ | 5.00 | 2.00 | - |
| US | 5⅞ | 5⅞ | 5¾ | 5¾ | 6⅛ | - | 5.25 | - |
| week ago | 5⅞ | 5⅞ | 5⅞ | 5⅞ | 5⅞ | - | 5.25 | - |
| Japan | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | - | 0.50 | - |
| week ago | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | - | 0.50 | - |
| **■ $ LIBOR FT London** | | | | | | | | |
| Interbank Fixing | - | 5¾ | 5⅞ | 5⅞ | 5⅞ | - | - | - |
| week ago | - | 5¾ | 5¾ | 5¾ | 5¾ | - | - | - |
| US Dollar CDs | - | 5.62 | 5.62 | 5.63 | 5.71 | - | - | - |
| week ago | - | 5.62 | 5.45 | 5.52 | 5.60 | - | - | - |
| ECU Linked Ds | - | 5⅞ | 5⅞ | 5⅞ | 5⅞ | - | - | - |
| week ago | - | 5⅞ | 5½ | 5½ | 5⅞ | - | - | - |
| SDR Linked Ds | - | 3⅝ | 3⅝ | 3⅝ | 3⅞ | - | - | - |
| week ago | - | 3⅝ | 3⅝ | 3⅝ | 3⅝ | - | - | - |

$ LIBOR interbank fixing rates are offered rates for $10m quoted to the market by four reference banks at 11am each working day. The banks are: Bankers Trust, Bank of Tokyo, Barclays and National Westminster.
Mid rates are shown for the domestic Money Rates, US$ CDs, ECU & SDR Linked Deposits (Ds).

### EURO CURRENCY INTEREST RATES

| Oct 3 | Short term | 7 days notice | One month | Three months | Six months | One year |
|---|---|---|---|---|---|---|
| Belgian Franc | 4 3/16 - 4 1/16 | 4 3/16 - 4 1/16 | 4 5/16 - 4 3/16 | 4 5/16 - 4 3/16 | 4⅜ - 4¼ | 4 7/16 - 4⅜ |
| Danish Krone | 6½ - 6¼ | 5 9/16 - 5 5/16 | 5¾ - 5 9/16 | 5 13/16 - 5⅝ | 5 13/16 - 5 9/16 | 5 29/32 - 5 21/32 |
| D-Mark | 4⅛ - 4 | 4⅛ - 4 | 4⅛ - 4 | 4 1/16 - 3 15/16 | 4 1/16 - 3 15/16 | 4 - 3⅞ |
| Dutch Guilder | 3 15/16 - 3 13/16 | 3 15/16 - 3 13/16 | 3 29/32 - 3 27/32 | 3 15/16 - 3 27/32 | 3 15/16 - 3⅞ | 4 1/32 - 3 31/32 |
| French Franc | 6 - 5½ | 5 13/16 - 5 11/16 | 6 - 5⅞ | 6 5/16 - 6 3/16 | 6¼ - 6⅛ | 6 5/16 - 6 3/16 |
| Portuguese Esc. | 8 13/16 - 8 11/16 | 8⅞ - 8⅝ | 9¼ - 9 | 9½ - 9¼ | 9⅝ - 9⅜ | 9 13/16 - 9½ |
| Spanish Peseta | 9 7/16 - 9 5/16 | 9 7/16 - 9 5/16 | 9 7/16 - 9¼ | 9½ - 9⅜ | 9⅝ - 9 7/16 | 9 23/32 - 9 19/32 |
| Sterling | 6⅞ - 6¾ | 6¾ - 5⅞ | 6 21/32 - 6 19/32 | 6¾ - 6 11/16 | 6 27/32 - 6 25/32 | 6 29/32 - 6 27/32 |
| Swiss Franc | 2 5/16 - 2 3/16 | 2 5/16 - 2 3/16 | 2 7/16 - 2 5/16 | 2 7/16 - 2 5/16 | 2 7/16 - 2 5/16 | 2½ - 2⅜ |
| Can. Dollar | 6 3/16 - 6 | 6 3/16 - 6 | 6 3/16 - 6 1/16 | 6 5/16 - 6 3/16 | 6 7/16 - 6 5/16 | 6 9/16 - 6 7/16 |
| US Dollar | 5⅞ - 5¾ | 5⅞ - 5¾ | 5⅞ - 5¾ | 5 15/16 - 5 13/16 | 5 15/16 - 5 13/16 | 6 1/16 - 5 15/16 |
| Italian Lira | 8 13/16 - 8 9/16 | 10 5/16 - 10 3/16 | 10⅜ - 10¼ | 10 11/16 - 10 9/16 | 10¾ - 10 19/32 | 10 13/16 - 10 11/16 |
| Yen | ½ - 7/16 | 9/16 - 7/16 | 13/32 - 9/32 | ⅜ - ¼ | ¼ - 7/32 | 13/32 - 9/32 |
| Asian $Sing | 2¾ - 2½ | 2 11/16 - 2 9/16 | 2 11/16 - 2 9/16 | 2 13/16 - 2 11/16 | 2⅞ - 2¾ | 3 - 2⅞ |

Short term rates are call for the US Dollar and Yen, others: two days' notice.

**■ THREE MONTH PIBOR FUTURES** (MATIF) Paris Interbank offered rate (FFr5m)

| | Open | Sett price | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 93.51 | 93.62 | - | 93.64 | 93.48 | 25,594 | 42,626 |
| Mar | 93.98 | 94.03 | +0.01 | 94.05 | 93.90 | 8,215 | 28,745 |
| Jun | 94.23 | 94.27 | +0.02 | 94.28 | 94.18 | 3,338 | 20,272 |

**■ THREE MONTH EUROMARK FUTURES** (LIFFE)* DM1m points of 100%

| | Open | Sett price | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 96.04 | 96.03 | -0.01 | 96.04 | 96.02 | 6592 | 147107 |
| Mar | 96.08 | 96.09 | -0.01 | 96.10 | 96.08 | 6183 | 156307 |
| Jun | 95.97 | 95.98 | -0.01 | 96.99 | 95.96 | 4322 | 121600 |
| Sep | 95.73 | 95.76 | - | 95.76 | 95.73 | 4728 | 83926 |

**■ THREE MONTH EUROLIRA FUTURES** (LIFFE)* L1000m points of 100%

| | Open | Sett price | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 89.40 | 89.45 | - | 89.47 | 89.28 | 12223 | 35202 |
| Mar | 89.64 | 89.74 | - | 89.77 | 89.60 | 2122 | 23115 |
| Jun | 89.74 | 89.88 | +0.03 | 89.88 | 89.74 | 601 | 11910 |
| Sep | 89.70 | 89.87 | +0.05 | 89.87 | 89.70 | 250 | 7591 |

**■ THREE MONTH EURO SWISS FRANC FUTURES** (LIFFE) SFr1m points of 100%

| | Open | Sett price | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 97.60 | 97.64 | +0.02 | 97.64 | 97.60 | 1390 | 25701 |
| Mar | 97.63 | 97.67 | +0.03 | 97.67 | 97.63 | 774 | 13102 |
| Jun | 97.51 | 97.52 | +0.03 | 97.52 | 97.49 | 649 | 4375 |
| Sep | 97.30 | 97.34 | +0.02 | 97.34 | 97.30 | 410 | 2137 |

**■ THREE MONTH ECU FUTURES** (LIFFE) Ecu1m points of 100%

| | Open | Sett price | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 94.37 | 94.38 | -0.01 | 94.39 | 94.34 | 580 | 7909 |
| Mar | 94.43 | 94.48 | +0.01 | 94.48 | 94.43 | 378 | 4414 |
| Jun | 94.40 | 94.44 | +0.02 | 94.45 | 94.40 | 197 | 2606 |
| Sep | 94.23 | 94.23 | -0.01 | 94.23 | 94.23 | 25 | 1399 |

* LIFFE futures also traded on APT

**■ EUROLIRA OPTIONS** (LIFFE) L1000m points of 100%

| Strike Price | CALLS Dec | CALLS Mar | CALLS Jun | PUTS Dec | PUTS Mar | PUTS Jun |
|---|---|---|---|---|---|---|
| 8925 | 0.52 | 0.87 | 1.07 | 0.32 | 0.38 | 0.44 |
| 8950 | 0.37 | 0.71 | 0.91 | 0.42 | 0.47 | 0.53 |
| 8975 | 0.26 | 0.57 | 0.76 | 0.56 | 0.58 | 0.53 |

Est. vol. total, Calls 0 Puts 411. Previous day's open int., Calls 13274 Puts 5037

## CROSS RATES AND DERIVATIVES

### EXCHANGE CROSS RATES

| Oct 3 | | BFr | DKr | FFr | DM | I£ | L | Fl | NKr | Es | Pta | SKr | SFr | £ | C$ | $ | Y | Ecu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Belgium | (BFr) | 100 | 18.86 | 16.77 | 4.864 | 2.097 | 5476 | 5.450 | 21.35 | 509.5 | 420.1 | 23.58 | 3.917 | 2.138 | 4.492 | 3.380 | 342.3 | 2.626 |
| Denmark | (DKr) | 53.02 | 10 | 8.891 | 2.579 | 1.112 | 2904 | 2.889 | 11.32 | 270.1 | 222.7 | 12.50 | 2.077 | 1.134 | 2.382 | 1.792 | 181.5 | 1.392 |
| France | (FFr) | 59.63 | 11.25 | 10 | 2.900 | 1.251 | 3266 | 3.250 | 12.73 | 303.8 | 250.5 | 14.06 | 2.336 | 1.275 | 2.678 | 2.016 | 204.1 | 1.566 |
| Germany | (DM) | 20.56 | 3.878 | 3.448 | 1 | 0.431 | 1126 | 1.120 | 4.389 | 104.7 | 86.37 | 4.848 | 0.805 | 0.440 | 0.924 | 0.695 | 70.37 | 0.540 |
| Ireland | (I£) | 47.69 | 8.993 | 7.996 | 2.319 | 1 | 2612 | 2.598 | 10.18 | 242.9 | 200.3 | 11.24 | 1.867 | 1.019 | 2.142 | 1.612 | 163.2 | 1.252 |
| Italy | (L) | 1.826 | 0.344 | 0.306 | 0.089 | 0.038 | 100. | 0.099 | 0.390 | 9.301 | 7.670 | 0.431 | 0.072 | 0.039 | 0.082 | 0.062 | 6.249 | 0.048 |
| Netherlands | (Fl) | 18.35 | 3.461 | 3.077 | 0.893 | 0.385 | 1005 | 1 | 3.917 | 93.49 | 77.09 | 4.327 | 0.719 | 0.392 | 0.824 | 0.620 | 62.81 | 0.482 |
| Norway | (NKr) | 46.84 | 8.836 | 7.857 | 2.279 | 0.983 | 2566 | 2.553 | 10 | 238.7 | 196.8 | 11.05 | 1.835 | 1.002 | 2.104 | 1.584 | 160.4 | 1.230 |
| Portugal | (Es) | 19.63 | 3.702 | 3.292 | 0.955 | 0.412 | 1075 | 1.070 | 4.190 | 100. | 82.46 | 4.629 | 0.769 | 0.420 | 0.882 | 0.663 | 67.18 | 0.515 |
| Spain | (Pta) | 23.80 | 4.490 | 3.992 | 1.158 | 0.499 | 1304 | 1.297 | 5.081 | 121.3 | 100. | 5.613 | 0.932 | 0.509 | 1.069 | 0.805 | 81.48 | 0.625 |
| Sweden | (SKr) | 42.40 | 7.998 | 7.112 | 2.063 | 0.889 | 2323 | 2.311 | 9.052 | 216.0 | 178.2 | 10 | 1.661 | 0.907 | 1.905 | 1.433 | 145.1 | 1.113 |
| Switzerland | (SFr) | 25.53 | 4.816 | 4.282 | 1.242 | 0.535 | 1398 | 1.391 | 5.450 | 130.1 | 107.3 | 6.021 | 1 | 0.546 | 1.147 | 0.863 | 87.39 | 0.670 |
| UK | (£) | 46.77 | 8.822 | 7.844 | 2.275 | 0.981 | 2562 | 2.549 | 9.984 | 238.3 | 196.5 | 11.03 | 1.832 | 1 | 2.101 | 1.581 | 160.1 | 1.228 |
| Canada | (C$) | 22.26 | 4.199 | 3.733 | 1.083 | 0.467 | 1219 | 1.213 | 4.752 | 113.4 | 93.53 | 5.250 | 0.872 | 0.476 | 1 | 0.752 | 76.20 | 0.584 |
| US | ($) | 29.58 | 5.580 | 4.961 | 1.439 | 0.620 | 1620 | 1.612 | 6.315 | 150.7 | 124.3 | 6.977 | 1.159 | 0.633 | 1.329 | 1 | 101.3 | 0.777 |
| Japan | (Y) | 29.21 | 5.510 | 4.899 | 1.421 | 0.613 | 1600 | 1.592 | 6.236 | 148.8 | 122.7 | 6.889 | 1.144 | 0.625 | 1.312 | 0.988 | 100. | 0.767 |
| Ecu | | 38.09 | 7.184 | 6.388 | 1.853 | 0.799 | 2086 | 2.076 | 8.130 | 194.1 | 160.0 | 8.982 | 1.492 | 0.814 | 1.711 | 1.287 | 130.4 | 1 |

Danish Kroner, French Franc, Norwegian Kroner, and Swedish Kronor per 10; Belgian Franc, Yen, Escudo, Lira and Peseta per 100.

**■ D-MARK FUTURES** (IMM) DM 125,000 per DM

| | Open | Latest | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 0.7029 | 0.6975 | -0.0046 | 0.7040 | 0.6975 | 16,099 | 45,752 |
| Mar | 0.7059 | 0.7010 | -0.0033 | 0.7059 | 0.7010 | 28 | 2,352 |
| Jun | - | 0.7055 | - | - | 0.7055 | 2 | 82 |

**■ JAPANESE YEN FUTURES** (IMM) Yen 12.5m per Yen 100

| | Open | Latest | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 1.0070 | 0.9986 | -0.0073 | 1.0100 | 0.9981 | 16,534 | 58,212 |
| Mar | 1.0194 | 1.0130 | -0.0053 | 1.0199 | 1.0130 | 92 | 8,220 |
| Jun | - | 1.0337 | -0.0069 | - | - | 7 | 282 |

**■ SWISS FRANC FUTURES** (IMM) SFr 125,000 per SFr

| | Open | Latest | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 0.8747 | 0.8681 | -0.0062 | 0.8772 | 0.8680 | 12,937 | 30,231 |
| Mar | - | 0.8765 | - | 0.8818 | 0.8885 | 51 | 1,877 |
| Jun | - | 0.8845 | - | - | 0.8845 | 12 | 47 |

**■ STERLING FUTURES** (IMM) £62,500 per £

| | Open | Latest | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 1.5864 | 1.5804 | -0.0060 | 1.5902 | 1.5800 | 7,496 | 30,741 |
| Mar | 1.5790 | 1.5780 | -0.0042 | 1.5850 | 1.5780 | 8 | 119 |
| Jun | - | 1.5820 | - | 1.5820 | - | 14 | 10 |

## UK INTEREST RATES

### LONDON MONEY RATES

| Oct 3 | Over-night | 7 days notice | One month | Three months | Six months | One year |
|---|---|---|---|---|---|---|
| Interbank Sterling | 7 - 5½ | 6⅞ - 6⅝ | 6 13/16 - 6 11/16 | 6 13/16 - 6 11/16 | 6 13/16 - 6 11/16 | 6 13/16 - 6 11/16 |
| Sterling CDs | - | - | 6 23/32 - 6 11/16 | 6 23/32 - 6 11/16 | 6 23/32 - 6 21/32 | 6⅝ - 6 9/16 |
| Treasury Bills | - | - | 6⅝ - 6 19/32 | 6 9/16 - 6½ | - | - |
| Bank Bills | - | - | 6 11/16 - 6⅝ | 6⅝ - 6 19/32 | 6⅝ - 6½ | - |
| Local authority deps. | 6 13/16 - 6 11/16 | 6 11/16 - 6 9/16 | 6¾ - 6⅝ | 6¾ - 6⅝ | 6¾ - 6⅝ | 6¾ - 6⅝ |
| Discount Market deps | 6⅞ - 6 | 6¾ - 6 11/16 | - | - | - | - |

UK clearing bank base lending rate 6¾ per cent from February 2, 1995

| | Up to 1 month | 1-3 month | 3-6 months | 6-9 months | 9-12 months |
|---|---|---|---|---|---|
| Certs of Tax dep. (£100,000) | 3 | 5¾ | 5¾ | 6 | 6¼ |

Certs of Tax dep. under £100,000 is 2½pc. Deposits withdrawn for cash 1¼pc.
Ave. tender rate of discount 6.5302pc. ECGD fixed rate Stlg. Export Finance. Make up day Sep 29, 1995. Agreed rate for period Oct 25, 1995 to Nov 25, 1995, Schemes II & III 8.04pc. Reference rate for period Sep 1, 1995 to Sep 29, 1995, Schemes IV & V 6.795pc. Finance House Base Rate 7pc from October 1, 1995

**■ THREE MONTH STERLING FUTURES** (LIFFE) £500,000 points of 100%

| | Open | Sett price | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 93.44 | 93.47 | +0.02 | 93.47 | 93.42 | 8551 | 103088 |
| Mar | 93.50 | 93.56 | +0.03 | 93.57 | 93.48 | 9547 | 60702 |
| Jun | 93.45 | 93.53 | +0.05 | 93.54 | 93.43 | 11552 | 47370 |
| Sep | 93.25 | 93.33 | +0.05 | 93.36 | 93.21 | 6313 | 34697 |
| Dec | 93.02 | 93.11 | +0.06 | 93.13 | 93.00 | 2844 | 26845 |

Also traded on APT. All Open interest figs. are for previous day.

**■ SHORT STERLING OPTIONS** (LIFFE) £500,000 points of 100%

| Strike Price | CALLS Dec | CALLS Mar | CALLS Jun | PUTS Dec | PUTS Mar | PUTS Jun |
|---|---|---|---|---|---|---|
| 9325 | 0.30 | 0.48 | 0.59 | 0.08 | 0.17 | 0.31 |
| 9350 | 0.14 | 0.33 | 0.44 | 0.17 | 0.27 | 0.41 |
| 9375 | 0.06 | 0.21 | 0.32 | 0.34 | 0.40 | 0.54 |

Est. vol. total, Calls 1998 Puts 1538. Previous day's open int., Calls 132057 Puts 117826

### EMS EUROPEAN CURRENCY UNIT RATES

| Oct 3 | Ecu cen. rates | Rate against Ecu | Change on day | % +/- from cen. rate | % spread v weakest | Div. ind. |
|---|---|---|---|---|---|---|
| Netherlands | 2.15214 | 2.10531 | -0.00148 | -2.18 | 4.51 | 18 |
| Belgium | 39.3960 | 38.6601 | -0.031 | -1.87 | 4.18 | 14 |
| Germany | 1.91007 | 1.88028 | -0.00146 | -1.56 | 3.86 | 15 |
| Austria | 13.4383 | 13.2321 | -0.0096 | -1.53 | 3.83 | 11 |
| Spain | 162.493 | 162.473 | +0.386 | -0.01 | 2.25 | 0 |
| Denmark | 7.28580 | 7.29126 | -0.00015 | 0.07 | 2.16 | -1 |
| Portugal | 195.792 | 196.909 | +0.14 | 0.57 | 1.66 | -4 |
| France | 6.40608 | 6.49094 | +0.00918 | 1.32 | 0.90 | -11 |
| Ireland | 0.792214 | 0.809946 | -0.002078 | 2.24 | 0.00 | -15 |
| NON ERM MEMBERS | | | | | | |
| Greece | 292.867 | 306.334 | +0.387 | 4.60 | -2.26 | - |
| Italy | 2106.15 | 2124.14 | +11.46 | 0.85 | 1.37 | - |
| UK | 0.786652 | 0.825620 | -0.002806 | 4.95 | -2.59 | - |

Ecu central rates set by the European Commission. Currencies are in descending relative strength. Percentage changes are for Ecu; a positive change denotes a weak currency. Divergence shows the ratio between two spreads: the percentage difference between the actual market and Ecu central rates for a currency, and the maximum permitted percentage deviation of the currency's market rate from its Ecu central rate.
(17/9/92) Sterling and Italian Lira suspended from ERM. Adjustment calculated by the Financial Times.

**■ PHILADELPHIA SE £/$ OPTIONS** £31,250 (cents per pound)

| Strike Price | CALLS Oct | CALLS Nov | CALLS Dec | PUTS Oct | PUTS Nov | PUTS Dec |
|---|---|---|---|---|---|---|
| 1.540 | 4.92 | 5.17 | 5.65 | - | 0.37 | 0.87 |
| 1.550 | 3.94 | 4.34 | 4.91 | - | 0.55 | 1.13 |
| 1.560 | 3.01 | 3.57 | 4.22 | 0.05 | 0.78 | 1.45 |
| 1.570 | 2.20 | 2.87 | 3.59 | 0.20 | 1.00 | 1.81 |
| 1.580 | 1.46 | 2.31 | 3.30 | 0.45 | 1.36 | 2.02 |
| 1.590 | 0.87 | 1.77 | 3.02 | 0.86 | 1.85 | 2.24 |

Previous day's vol., Calls 5,828 Puts 4,755. Prev. day's open int., Calls 245,928 Puts 268,197

**■ THREE MONTH EURODOLLAR** (IMM) $1m points of 100%

| | Open | Latest | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 94.19 | 94.20 | +0.01 | 94.21 | 94.18 | 89,513 | 421,604 |
| Mar | 94.34 | 94.36 | +0.02 | 94.37 | 94.34 | 105,010 | 360,639 |
| Jun | 94.32 | 94.32 | +0.03 | 94.33 | 94.28 | 57,915 | 242,013 |

**■ US TREASURY BILL FUTURES** (IMM) $1m per 100%

| | Open | Latest | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 94.72 | 94.74 | +0.01 | 94.74 | 94.72 | 1,500 | 14,121 |
| Mar | 94.77 | 94.82 | +0.02 | 94.82 | 94.77 | 608 | 3,741 |
| Jun | - | 94.78 | +0.02 | - | - | 7 | 145 |

All Open interest figs. are for previous day

**■ EUROMARK OPTIONS** (LIFFE) DM1m points of 100%

| Strike Price | CALLS Oct | CALLS Nov | CALLS Dec | CALLS Mar | PUTS Oct | PUTS Nov | PUTS Dec | PUTS Mar |
|---|---|---|---|---|---|---|---|---|
| 9600 | 0.06 | 0.09 | 0.12 | 0.25 | 0.03 | 0.06 | 0.09 | 0.16 |
| 9625 | 0 | 0.02 | 0.04 | 0.12 | 0.22 | 0.24 | 0.26 | 0.28 |
| 9650 | 0 | 0 | 0.01 | 0.06 | 0.47 | 0.47 | 0.48 | 0.47 |

Est. vol. total, Calls 4150 Puts 3398. Previous day's open int., Calls 226584 Puts 219863

**■ EURO SWISS FRANC OPTIONS** (LIFFE) SFr 1m points of 100%

| Strike Price | CALLS Dec | CALLS Mar | CALLS Jun | PUTS Dec | PUTS Mar | PUTS Jun |
|---|---|---|---|---|---|---|
| 9750 | 0.20 | 0.30 | 0.28 | 0.06 | 0.13 | 0.28 |
| 9775 | 0.07 | 0.15 | 0.16 | 0.18 | 0.23 | 0.39 |
| 9800 | 0.03 | 0.07 | 0.10 | 0.39 | 0.40 | 0.58 |

Est. vol. total, Calls 0 Puts 0. Previous day's open int., Calls 6125 Puts 800

## BASE LENDING RATES

| | % |
|---|---|
| Adam & Company | 6.75 |
| Allied Trust Bank | 6.75 |
| AIB Bank | 6.75 |
| ●Henry Ansbacher | 6.75 |
| Bank of Baroda | 6.75 |
| Banco Bilbao Vizcaya | 6.75 |
| Bank of Cyprus | 6.75 |
| Bank of Ireland | 6.75 |
| Bank of India | 6.75 |
| Bank of Scotland | 6.75 |
| Barclays Bank | 6.75 |
| Brit Bk of Mid East | 6.75 |
| ●Brown Shipley & Co Ltd | 6.75 |
| Citibank NA | 6.75 |
| Clydesdale Bank | 6.75 |
| The Co-operative Bank | 6.75 |
| Coutts & Co | 6.75 |
| Credit Lyonnais | 6.75 |
| Cyprus Popular Bank | 6.75 |
| Duncan Lawrie | 6.75 |
| Exeter Bank Limited | 7.75 |
| Financial & Gen Bank | 7.50 |
| ●Robert Fleming & Co | 6.75 |
| Girobank | 6.75 |
| ●Guinness Mahon | 6.75 |
| Habib Bank AG Zurich | 6.75 |
| ●Hambros Bank | 6.75 |
| Heritable & Gen Inv Bk | 6.75 |
| ●Hill Samuel | 6.75 |
| C. Hoare & Co | 6.75 |
| Hongkong & Shanghai | 6.75 |
| Julian Hodge Bank | 6.75 |
| ●Leopold Joseph & Sons | 6.75 |
| Lloyds Bank | 6.75 |
| Meghraj Bank Ltd | 6.75 |
| Midland Bank | 6.75 |
| * Mount Banking | 6.75 |
| NatWestminster | 6.75 |
| ●Rea Brothers | 6.75 |
| * Roxburghe Guarantee Corporation Limited is no longer authorised as a banking institution. | 10 |
| Royal Bk of Scotland | 6.75 |
| ●Singer & Friedlander | 6.75 |
| ●Smith & Williamson Secs. | 6.75 |
| TSB | 6.75 |
| United Bank of Kuwait | 6.75 |
| Unity Trust Bank Plc | 6.75 |
| Western Trust | 6.75 |
| Whiteaway Laidlaw | 6.75 |
| Yorkshire Bank | 6.75 |

● Members of London Investment Banking Association
* In administration

The FT GUIDE TO WORLD CURRENCIES, published in Monday's newspaper and covering over 200 currencies, is now available by dialling the following number from the keypad or handset of your fax machine. 0891 437 001. Calls are charged at 39p/min cheap rate and 49p/min at all other times. For service outside the UK please telephone +44 171 873 4378 for details on Cityline International.

FAST 64 KBIT SATELLITE TECHNOLOGY
FOR COMPLETE REAL-TIME DATA OF THE US AND EUROPEAN EXCHANGES
FOREX, FUTURES, OPTIONS, EQUITIES, NEWS
LONDON 44 171-329 3377 FRANKFURT 49 694 40071 NEW YORK 1 212 269 6760 ATHENS 3 01 3622596 NEW SatQuote

FUTURES &OPTIONS TRADERS FOR AN EFFICIENT & COMPETITIVE SERVICE
BERKELEY FUTURES LIMITED
38 DOVER STREET, LONDON W1X 3RB
TEL: 0171 629 1133 FAX: 0171 495 0022

YOUR PERSONAL REUTERS FINANCIAL REPORTER
Currencies, Futures, Indices and the latest news updates;
Futures Pager keeps you in touch with the markets 24 hrs a day.
FOR YOUR FREE 10 DAY TRIAL FREEPHONE 0500 800 456 TODAY
FUTURES PAGER

IG INDEX Tax laws can of course be changed.
DOW TO SURGE - OR CRASH?
BACK YOUR VIEW TAX-FREE**
To obtain your free Guide to how your Financial Bookmaker can help you, call Michael Murray or Ian Jenkins on 0171-896 8011 or write to us: IG Index Plc, 1 Warwick Row, London SW1E 5ER.

Futures, Options & Currencies with direct access to exchange floors
James Maxwell
Tel. 0171 702 1991
Fax. 0171 480 6115
MUIRPACE
UK & International Equities and Bonds, GDRs and ADRs
Laurie Pinto

Professional financial information direct to your PC for a low fixed cost
Market-Eye
FREEPHONE 0800 321 321 FAX 0171 398 1001
ICV

WANT TO KNOW A SECRET?
The I.D.S. Gann Seminar will show you how the markets REALLY work. The amazing trading techniques of the legendary W.D. Gann can increase your profits and contain your losses. How? That's the secret. Book your FREE place. Phone 0171 588 5858

24HR FOREX Est. 1969
0171-865 0800
Daily Fax Service
Competitive Rates
London Dealing Desk
CURRENCY MANAGEMENT CORPORATION PLC
CMC

TREND ANALYSIS LTD
Daily Analysis & Trading Recommendations by Fax
FOREX • METALS • BONDS • COMMODITIES
For FREE TRIAL Phone 01962 879764 Fax 01424 774067

PHILLIP ALEXANDER SECURITIES AND FUTURES LIMITED
Vertiras House, 125 Finsbury Pavement, London EC2A 1PA
MEMBER SFA & LSE Tel: (+44) 171 417 9720 Fax: (+44) 171 417 9719
FUTURES & OPTIONS EXECUTION ONLY FROM $32 ROUND TURN

FOREX
SOVEREIGN (FOREX) LIMITED
24 HOUR MARGIN TRADING FACILITY
COMPETITIVE PRICES
DAILY FAX SERVICE
Tel: 0171 - 931 9188 Fax: 0171 - 931 7114
42a Buckingham Palace Rd, London SW1W ORE

THE TAX FREE WAY TO PLAY THE MARKETS*
CITY INDEX
We are the leaders in financial and commodity spread betting. Accounts are normally opened within 72 hours. Up-to-date prices 8am-9pm. Page 609 Teletext CH4. For brochure and account application form call 0171 283 3667.
* Subject to tax law

Union CAL Limited
FUTURES AND OPTIONS TRADING
Clearing and Execution Service 24 hrs
Tel: +44 171 329 3030
Fax: +44 171 329 3919

Argus Fundamentals
'Understand what is driving oil prices'
Petroleum Argus
CALL for a FREE TRIAL to this Monthly publication (44 171) 359 8792

OFFSHORE COMPANIES
Established in 1975 OCRA has 20 offices world wide. 750 ready-made companies available. For 100 page FREE colour brochure contact:
Isle of Man D MURPHY, CA Tel: +44 1624 815544 Fax: +44 1624 816657
London RICHARD COOK, BSc Tel: +44 171 355 1096 Fax: +44 171 495 3017
Hong Kong BART DEKKER, LLM Tel: +852 25220172 Fax: +852 25211190
USA KEVIN MIRECKI, Esq Tel: +1 714 854 3344 Fax: +1 714 854 6967

Volume Spread Analysis
PROFITABLE TRADING
STOCKS FUTURES CURRENCIES ETC
Our unique computer program gives best trading opportunities using market makers information.
Contact Eurosens Tel.0171 495 1720 Fax: 0171 491 8098

When you are trading futures on your own, information is a very valuable commodity.
We have been serving futures traders since 1965 – so we know what kind of information they need. And we have established the most comprehensive program in the industry to make sure they get it.
To meet traders' needs for market and trading strategy information, we created our IntroAccount trading kit – free to all new customers. You get Commodity Perspective charts, a subscription to Futures magazine, and trading guidelines that can help you become a more successful trader. You also have access to our exclusive telephone "hotlines," with daily market analysis and trading recommendations from a top trading advisor.
To meet traders' needs for information about the types of orders and how to place them, we wrote "Order Placement Made Easy," a step-by-step guide to the process. And we make sure the professionals on our Trade Centre staff provide the information and help that's right for you – from "walking you through" how to place an order to filling you in on just-breaking market information.
All the help you need to start trading on your own – plus 50-70% commission savings. Isn't it time you took a close look at Lind-Waldock?
Name:
Address:
Postcode:
Tele. no (optional)
Futures trading involves risk, including the risk of losses greater than the original investment and currency risk. It is not, therefore, suitable for everyone.
WORLD'S LARGEST FUTURES DISCOUNT FIRM CHICAGO • LONDON • NEW YORK
Lind-Waldock 21 Sun Street London EC2M 2PS
0800-262-472 (U.K.)
Outside the U.K., call toll-free by dialing
Belgium: 078-118444
Germany: 0130-818100
France: 05-908240
Switzerland: 046-058328
Denmark: 80-01-76-55
Netherlands: 06-022-7680
Sweden: 020-793176
Spain: 900984446
Others call 0171-247-1701, reverse charges
Fax: 0171-247-0471
This ad issued and approved by Lind-Waldock & Company, a member of the SFA
LIND-WALDOCK & COMPANY

# LONDON SHARE SERVICE

## BANKS, MERCHANT

| | Notes | Price | + or – | 1995 high | low | Mkt Cap£m | Yld Gr's | P/E |
|---|---|---|---|---|---|---|---|---|
| Barings 8pc Cm 2nd Prf | | 50½# | — | 88 | 50¼ | 6.31 | 16.8 | – |
| 9¼pc Non-Cum Prf | | 4¼# | — | 118½ | 3 | 1.98 | – | – |
| Cater Allen | ‡v | 485 | -4 | 525 | 418 | 169.1 | 7.4 | 7.4 |
| Close Bros | ‡gv | 318xr | -5 | *340½ | 216¼ | 387.8 | 3.5 | φ |
| Gerrard & Nat | ‡v | 452 | -5 | 480 | 395 | 228.6 | 6.2 | 14.8 |
| Hambros | v☐ | 283 | +7 | 253 | 180 | 369.5 | 4.6 | 51.2 |
| 7¼pc Cv Pf | | 104 | — | 112 | 94 | 134.0 | 9.0 | – |
| Joseph (L) | ‡v | 438 | +3 | 460 | 353 | 22.2 | 5.0 | 24.5 |
| King & Shaxson | ‡v | 137 | — | 148 | 85 | 35.2 | 8.2 | 10.6 |
| Rea Brothers | ‡v | 47 | — | 67 | 47 | 22.9 | 2.7 | 18.8 |
| Schroders | ‡†v☐ | 1353xd | -2 | *1478 | 906¼ | 2,043 | 1.3 | 19.3 |
| N/V | †v | 1123xd | -2 | *1180 | 823¼ | 404.1 | 1.6 | 16.0 |
| Singer & Fried | ‡†v☐ | 109xd | +2 | 110 | 81 | 214.4 | 4.2 | 11.3 |
| Union | ‡v☐ | 115 | — | 121 | 70 | 30.6 | 3.3 | – |
| Wintrust | ‡v | 285 | — | 285 | 200 | 28.1 | 4.8 | 16.9 |

## BANKS, RETAIL

| | Notes | Price | + or – | 1995 high | low | Mkt Cap£m | Yld Gr's | P/E |
|---|---|---|---|---|---|---|---|---|
| ABN Amro Fl | ☐ | £25¼ | -⅛ | £26½ | £21¼ | 7,618 | 5.0 | 8.5 |
| ANZ A$ | † | 278 | +1 | 280 | 198 | 3,635 | 5.1 | 8.2 |
| Abbey National | ‡†v☐ | 548xd | +3 | 548 | 413 | 7,248 | 4.4 | 11.0 |
| Allied Irish £ | ‡†☐ | 315 | — | 328 | 250 | 2,088 | 4.8 | 8.2 |
| Anglo Irish £ | ☐ | 61 | — | 63 | 48 | 209.9 | 7.3 | 12.3 |
| Asahi Y | ☐ | 677½ | +18 | 857¼ | 632½ | 15,732 | 0.8 | – |
| Banco Bil Viz Pta | ☐ | £19⅝ | -⅛ | £20½ | £14⅜ | 4,475 | 4.2 | 8.7 |
| Banco Sant Pta | | £26⅝ | — | £27¼ | £22⅛ | 4,212 | 5.0 | 18.1 |
| Bk Ireland £ | v☐ | 401 | +2 | 401 | 288 | 1,986 | 4.0 | 8.0 |
| Bank Scotland | ‡v☐ | 247 | — | 259½ | 181½ | 2,909 | 2.8 | 10.9 |
| 9¼pc Pf | | 119¼ | +¼ | 120 | 109¼ | 116.2 | 10.0 | – |
| New 9 1/4pc Pf | | 114¾ | +¼ | 118¼ | 108¾ | 114.2 | 10.1 | – |
| 9¾pc Pf | | 121½ | +¼ | 125¼ | 112¾ | 121.8 | 10.0 | – |
| Barclays | ‡†v☐ | 747xd | -3 | 778 | 557½ | 12,084 | 3.8 | 10.2 |
| Dai Ichi Kan Y | ☐ | £11⅜ | +½ | £13¼ | £9⅝ | 36,882 | 0.5 | – |
| Deutsche DM | ☐ | £30⅞ | -⅛ | *£32⅛ | £27⅛ | 14,276 | 2.4 | – |
| Espirito Santo | ☐ | £7⅛ | -⅛ | £8⅜ | £6⅛ | 158.0 | 11.1 | φ |
| Fuji Bank Y | ☐ | 1263¼ | -7 | 1611 | 1192¼ | 37,162 | 0.4 | – |
| HSBC HK | †v☐ | 887½xd | — | 938½ | 576 | 16,690 | 4.0 | 11.5 |
| HSBC (75p Shs) | †v☐ | 986xd | — | 938 | 598 | 7,782 | 3.9 | 11.8 |
| Irish Permanent | †☐ | 323xd | — | 333 | 228 | 245.9 | 3.8 | 7.5 |
| Lloyds | †v☐ | 693xd | -3 | 716 | 530 | 8,078 | 4.9 | 10.6 |
| Mitsubishi Y | ☐ | £12⅜ | +½ | £16⅝ | £12⅜ | 38,069 | 0.4 | φ |
| Mits Tst & Bk Y | ☐ | 977¼ | +39½ | 1128¼ | 726¼ | 11,715 | 0.5 | 15.8 |
| Mitsui Tst & Bk Y | ☐ | 580¼ | +6 | 743¼ | 512 | 8,989 | 0.9 | 19.9 |
| Nat Aust A$ | † | 565xd | -1 | 592 | 479 | 8,687 | 6.8 | 8.7 |
| NatWest | †v☐ | 626xd | +1 | 665 | 454 | 10,917 | 4.5 | 8.7 |
| Ottomane FFr | | £25 | — | £30 | £21½ | 125.9 | 8.4 | 3.5 |
| Ryl Bk Scotland | ‡†☐ | 459 | +5 | 478 | 373½ | 3,704 | 3.9 | 11.0 |
| Sakura Y | ☐ | £8¾ | +⅜ | £9⅞ | £6⅞ | 22,358 | 0.8 | 42.4 |
| Sanwa Y | ☐ | £11⅞ | +⅜ | £14⅜ | £10⅜ | 33,515 | 0.5 | – |
| Standard Chartd | †v☐ | 459xd | +3 | 461 | 246 | 4,438 | 2.6 | 11.5 |
| 7 3/8pc Prf | | 88¾ | +¼ | 96¼ | 84¼ | 88.8 | 10.4 | – |
| Sumitomo Y | ☐ | £11⅜ | -⅛ | £14¼ | £10⅛ | 37,483 | 0.4 | – |
| Sumitomo Tst Y | ☐ | 838¼ | -30½ | 1002 | 668 | 10,411 | 0.8 | – |
| TSB | †☐ | 279 | +1 | 279½ | 217 | 4,274 | 4.3 | 11.7 |
| Tokai Y | ☐ | £7½ | +½ | £8⅞ | £6½ | 15,221 | 0.7 | φ |
| Toyo Tst & Bk Y | ☐ | 468½ | -38¼ | 689½ | 486 | 3,881 | 0.9 | φ |
| Westpac A$ | | 261½ | — | 269¼ | 211 | 4,771 | 2.2 | φ |
| Yasuda Tst Bk Y | ‡☐ | 354½ | -2¼ | 598¼ | 348 | 3,909 | 1.2 | 35.2 |

## BREWERIES

## BUILDING & CONSTRUCTION

## BUILDING MATS. & MERCHANTS

## CHEMICALS

| | Notes | Price | + or – | 1995 high | low | Mkt Cap£m | Yld Gr's | P/E |
|---|---|---|---|---|---|---|---|---|
| AGA SKr | ☐ | 88⅛ | — | 88⅞ | 65⅛ | 881.6 | 2.5 | 14.8 |
| Akzo Fl | ☐ | £74⅜ | -1 | £84⅜ | £65⅜ | 5,328 | 3.7 | 11.9 |
| Albright & Wilson | ‡Lv☐ | 170xd | +3 | 189 | 154 | 638.8 | 4.4 | 17.9 |
| Allied Colloids | ‡v☐ | 128 | — | 137 | 109 | 687.4 | 2.6 | 17.8 |
| Amber Ind | v☐ | 238 | — | *249 | 195 | 37.3 | 3.0 | φ |
| Amberley | ‡v☐ | 60 | — | 61 | 47 | 26.9 | 2.8 | 17.3 |
| BASF DM | ☐ | £139⅜ | +⅜ | £147¾ | £120⅜ | 8,144 | 3.2 | – |
| BOC | ‡†v☐ | 819 | +19 | 868 | 689 | 3,921 | 3.8 | 17.0 |
| BTP | ‡v☐ | 278 | — | *303 | 235 | 492.8 | 4.9 | 15.2 |
| Bayer DM | ☐ | £161¼ | +⅜ | £171⅜ | £141⅜ | 11,210 | 3.5 | – |
| Brent | ‡†v☐ | 94 | — | 118 | 83 | 63.5 | 4.3 | 19.8 |
| British Vita | ‡†v☐ | 256xd | — | 278 | 210 | 559.2 | 3.9 | 16.2 |
| Cambridge Isc $ | ‡ | 32 | -1 | 52 | 30 | 4.16 | – | φ |
| Canning (W) | ‡†v | 233 | +3 | 233 | 164 | 68.2 | 4.2 | 14.8 |
| Cornerstone | ‡v | 28xd | -1 | 46 | 29 | 6.38 | 6.0 | 7.5 |
| Warrants | | 8 | — | 17 | 5 | 0.07 | – | – |
| Courtaulds | ‡v☐ | 400 | +3 | 408½ | 332 | 1,620 | 4.8 | 15.7 |
| Croda | ‡†v☐ | 362xd | +1 | 387½ | 320 | 468.2 | 3.2 | 15.4 |
| Doeflex | ‡†v | 228 | — | 233 | 125 | 32.8 | 3.2 | 14.6 |
| Ellis & Everard | ‡v☐ | 266xd | — | 282 | 234 | 224.3 | 3.9 | 15.6 |
| Engelhard $ | | £16⅜ | +⅛ | £20⅛ | £9⅞ | 3,848 | 1.4 | 28.1 |
| European Colour | ‡v☐ | 66 | — | *107 | 58 | 37.2 | 2.2 | 24.9 |
| Gibbon | ‡v | 210 | +16 | 210 | 114 | 19.1 | 3.7 | 16.8 |
| Hickson | ‡†v☐ | 113 | — | 145 | 106 | 169.8 | 4.7 | 10.8 |
| Hoechst DM | ☐ | £153⅜ | -1⅞ | £169¼ | £123⅜ | 9,096 | 3.3 | – |
| Holliday Chemical | ‡v☐ | 197 | +3 | 221½ | 190 | 288.3 | 3.2 | 14.0 |
| ICI | †v☐ | 820xd | +12 | 849½ | 680 | 5,945 | 4.3 | 17.5 |
| Inspec | ‡†v☐ | 351xd | — | *360 | 169¼ | 408.2 | 1.7 | 24.5 |
| Kalon | ‡†v☐ | 149½ | — | 159 | 97½ | 515.4 | 4.0 | 16.6 |
| Laporte | ‡†v☐ | 812xd | +11 | 838 | 620 | 1,580 | 3.5 | 18.7 |
| MTM | ‡†v☐ | 72xd | — | 86 | 71 | 26.7 | 2.8 | 12.9 |
| Manders | ‡†v | 315xd | -3 | 385 | 293 | 126.4 | 4.4 | 14.2 |
| Metrotect Inds | ‡v☐ | 48 | — | 66 | 30 | 11.1 | 4.1 | 17.4 |
| Perstorp SKr | ☐ | £29⅛ | -⅛ | £29⅜ | £22 | 137.4 | 1.9 | 18.8 |
| Porvair | ‡†v | 419 | -1 | *425 | 273¼ | 103.1 | 1.5 | 30.6 |
| Scapa | ‡†v☐ | 234 | — | 250 | 188 | 558.9 | 3.3 | 18.9 |
| Suttcliffe Speak | ‡†v☐ | 30xd | — | 33 | 16 | 17.0 | 1.7 | 37.2 |
| Wellington | ‡v☐ | 258xd | — | 258 | 188 | 60.4 | 3.3 | 19.6 |
| Wolstenholme | ‡†v | 1000xd | — | 1058 | 728 | 75.0 | 2.7 | 17.0 |
| Yorkshire | ‡v☐ | 321xd | -1 | 374 | 275 | 147.0 | 3.3 | 15.7 |
| Yule Catto | ‡†v | 339 | — | 340 | 236 | 340.7 | 2.8 | 17.8 |
| Zotefoams | ‡v☐ | 285 | — | 289 | 170 | 109.3 | 2.0 | 28.8 |

## DISTRIBUTORS

## DIVERSIFIED INDUSTRIALS

## ELECTRICITY

## ELECTRONIC & ELECTRICAL EQPT

## ELECTRONIC & ELECTRICAL EQPT - Cont.

## ENGINEERING

## ENGINEERING, VEHICLES

## EXTRACTIVE INDUSTRIES

## EXTRACTIVE INDUSTRIES - Cont.

## FOOD PRODUCERS

## GAS DISTRIBUTION

## HEALTH CARE

## HOUSEHOLD GOODS

## HOUSEHOLD GOODS - Cont.

## INSURANCE

## INVESTMENT TRUSTS

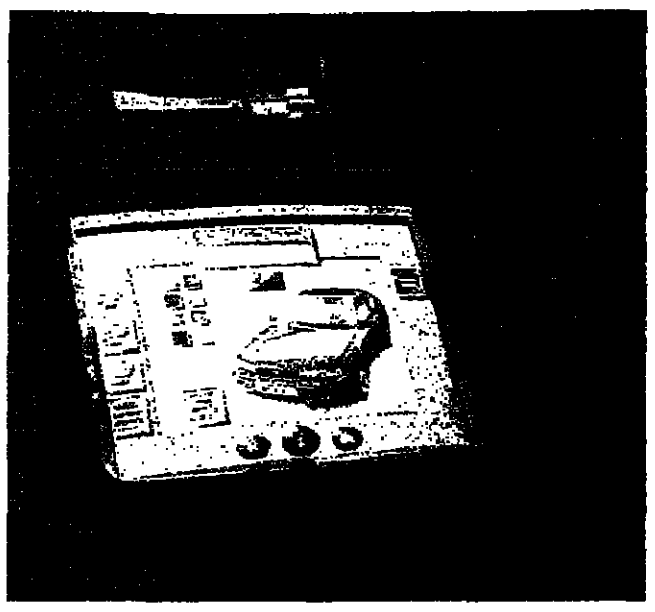
## INVESTMENT TRUSTS - Cont.

## INV TRUSTS SPLIT CAPITAL

هكذا من الأصل

هكذا من الأصل

Multimedia kiosks and videoconferencing are available for customers at the Nationwide Building Society



Carmaker Daewoo uses multimedia kiosks instead of 'pushy' salesmen

The shape of things to come: virtual home shopping with Tesco

**Introduction:** *Information Technology has already transformed retailing, and there is more to come, reports* **Neil Buckley**

# The revolution continues

## Large retailers now see the re-creation of personal relationships with customers as a source of competitive advantage

Over the past three decades, information technology has transformed retailers' operations. But the revolution is far from over.

Computer control of the warehouse and supply chain, management information systems, bar codes and check-out scanning – all have enabled retailers to increase margins and provide better service and value to customers.

Such technology has underpinned the shift from high-street shops to out-of-town superstores offering vastly bigger ranges, supplied from giant distribution centres controlled by the retailer.

But much of retail IT so far has been employed behind the scenes. Bar code scanning and the larger stores which IT has made possible are the only changes immediately visible to consumers.

> Retailers can track exactly what individual, identifiable customers are buying

Industry specialists expect progress in coming years to be as much in using IT to improve marketing and customer service, and enhance the shopping experience, as in increasing operational efficiency. Retail IT will become something with which shoppers interact directly.

This reflects a broader trend towards "re-personalising" shopping.

Until the 1960s, customers shopped mainly in small stores, where shopkeepers often knew them by name. The trend since has been towards larger formats, standardisation, cost reduction and a dramatic increase in the power of multiple chains.

Retailing has undergone a transition from personal to mass marketing. Large retailers now see the re-creation of personal relationships with customers as a source of competitive advantage.

"Technology is the only thing that can allow you to give personal service in a high-volume environment," says Mr Simon Brown, European retail marketing manager for Microsoft.

One change which shoppers are likely to notice soon is an increase in the number of bits of plastic in their wallets – not credit cards, but loyalty or frequent shopper cards.

Tesco, the British grocery retailer, launched a nationwide loyalty card earlier this year which has 5m members, and IT solutions providers say retailers are currently more interested in loyalty programmes than anything else.

Loyalty cards have a two-fold function. They attract shoppers by offering rewards according to how much they spend.

More importantly, if card and purchasing information are captured at the point of sale, and stored in a database, retailers can track exactly what individual, identifiable customers are buying.

That enables stores to target customers individually with product promotions likely to appeal to them. It helps them to stock more of the things most popular with their highest-spending customers, and ensure these customers are retained.

Even retailers without loyalty cards are seeking to learn more from their Epos or store credit card data.

Applications such as data warehousing and data mining will become increasingly important.

As Ms Kim McNann, president of the commercial services group at EDS in Dallas, puts it: "Retailers have had the opportunity to capture enormous amounts of data, but not all have had the capacity before to turn that data into actionable information."

Eventually, loyalty cards might be developed additionally into payment cards – and the Mondex trial in Swindon, where smart cards are being used to replace cash, has attracted international interest.

"There will be widespread acceptance of smart cards within four or five years," predicts Mr Warwick Morgan, managing director of ICL Retail Systems.

Another change shoppers may notice is a proliferation of multimedia kiosks – touch-screens which use graphics and video clips to provide product information to shoppers, and may also process orders and payments.

They are another way of making shopping fun and, if linked with a loyalty or smart card that was inserted or swiped, could even be used to greet customers by name.

*Best Buy, the US electrical* chain, last year introduced multimedia kiosks with 1,400 video clips that can be accessed by customers or used by assistants to demonstrate and explain products. Daewoo, the Korean car maker, is using multimedia kiosks instead of "pushy" sales people in its showrooms.

Other in-store technological innovations include electronic shelf-edge labels, enabling retailers to change prices instantly across stores – or entire chains – through radio frequency communications.

Then there is self-scanning by customers using hand-held terminals – already being trialled by Britain's Safeway and the Netherlands' Albert Heijn. IT experts suggest that hand-held scanners could ultimately incorporate automatic payment facilities, and colour screens that would become customers' personal guides around stores.

Replacing bar codes with radio tags, such as ICL Retail Systems' Supertag, could allow shops to "scan" a customer's entire basket or trolley of goods simultaneously, without removing them.

> Both sides have invested in making their section more responsive

Innovation will also be continuing behind the scenes.

Retailers and suppliers are rethinking their relationships, and starting to drop their traditional "adversarial" stance. Both sides have invested heavily in making their section of the supply chain more responsive, and reducing stock tied up in it. But Mr Julian David, retail and distribution business director at IBM, says stores and suppliers now need to co-operate in partnerships.

"If you can look right across the supply chain, from factory to customer, and react to sales data right the way through, there are still savings to be had," he says.

The buzz-words Efficient Consumer Response are becoming a most important initiative among retailers and suppliers, particularly in the US. ECR means sharing sales information, and even forecasts and customer databases, via electronic data interchange, to enable both retailer and supplier to respond more efficiently to purchasing patterns.

Wal-mart, the US discount chain and world's largest retailer, pioneered this approach with Procter & Gamble, the consumer goods group. Other retailers, including France's Auchan and Promodès, Italy's Rinascente and Esselunga, and European manufacturers Kronenbourg and Panzani, have followed suit.

The broader trends in retail technology are similar to other sectors: a shift from mainframes towards PC-based and client-server systems; an embrace of industry-standard open systems, and object-oriented technology – IBM, for example, has introduced Storeplace, an object-oriented architecture for retailers; and increasing popularity of the Microsoft NT operating system.

Perhaps the most exciting development is that information technology is itself becoming a medium for selling goods. TV shopping is a $2bn-plus industry in the US – although growth has slowed and customers and retailers are waiting for the next stage: interactive TV. Meanwhile, there are more than 100 shopping "malls" on the Internet, and retail sales through on-line networks such as America Online, Prodigy, CompuServe and Microsoft Network will be several hundred millions dollars this year.

The figures are still comparatively small, however, and opinion is divided over what proportion of retail sales electronic shopping will eventually take. The technology can be cumbersome and there are issues to be resolved, such as security of payments on the Internet, and how home delivery of goods will be paid for.

Most observers agree that on-screen retailing will never wipe out the high street, but conventional shops will have to increase their attractiveness to customers – largely by using technology – if they are to fend off the threat.

FT IT

## computers in retailing

FT writers examine developments in retailing.
Among the subjects covered in this section:

**Data and voice networks:**
*ATM is springing to life*
**Marketing:**
Software for executives Page 4

**Self-scanning:**
Supermarkets check it out
**Epos systems and terminals:**
Microsoft sets the pace Page 5

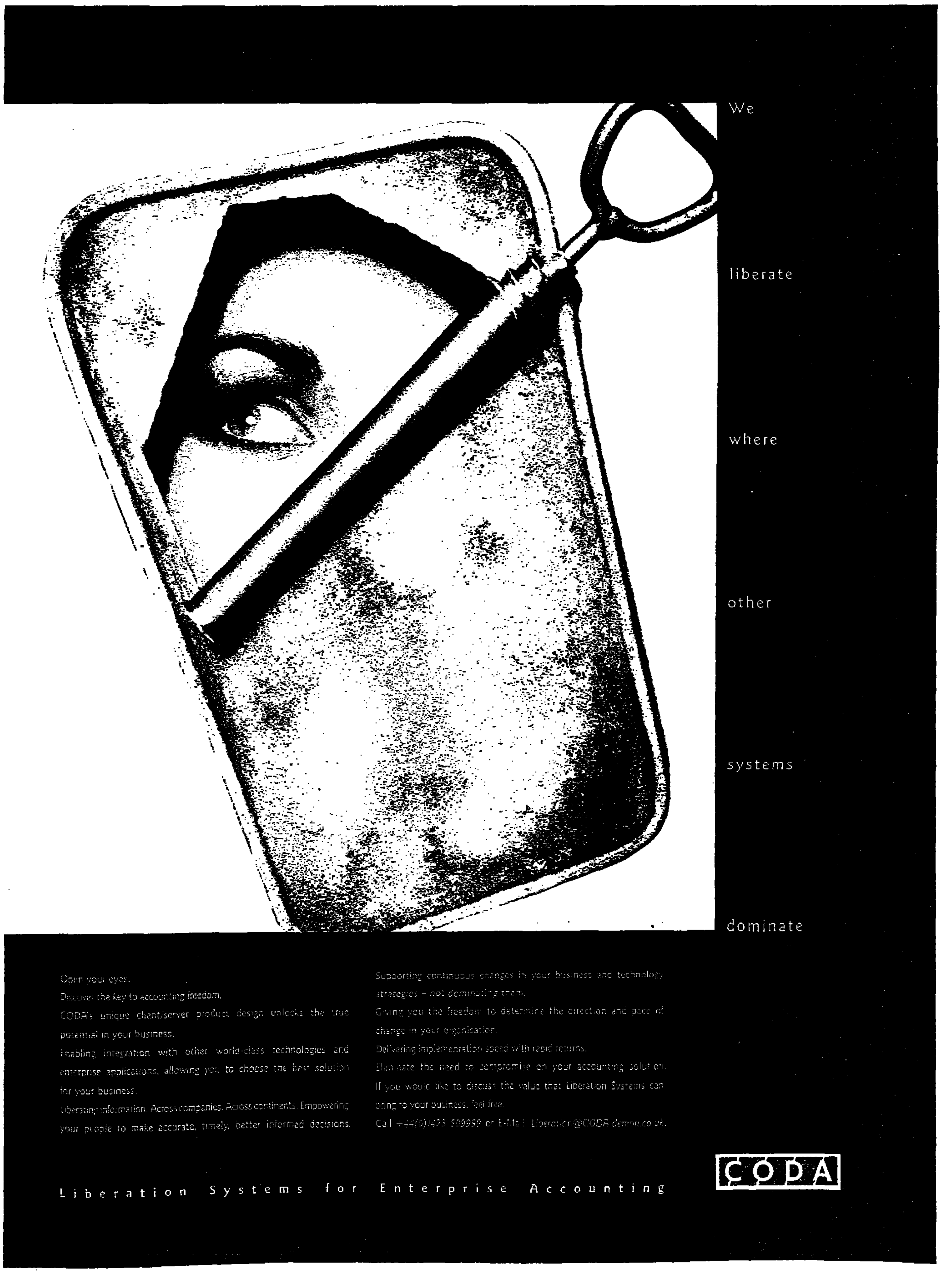
**Logistics:**
New uses for bar codes
**After-sales support:**
Key area for innovation Page 6

**Interactive retailing:**
The latest technologies
**Virtual shopping:**
Waking up to 'cyberspace' Page 7

**VR and in-store planning**
**Multimedia for training**
**In-store security systems** Page 8

**Multimedia kiosks**
***Data warehouses*** Page 9

**Smart cards and electronic money:**
Cash in your chips
**Back office systems** Page 10



Open your eyes.
Discover the key to accounting *freedom.*
CODA's unique client/server product design unlocks the true potential in your business.
Enabling integration with other world-class technologies and enterprise applications, *allowing you to choose the best solution* for your business.
Liberating information. Across companies. Across continents. Empowering your people to make accurate, timely, better informed decisions.
Supporting continuous changes in your business and technology *strategies – not dominating them.*
Giving you the freedom to determine the direction and pace of change in your organisation.
Delivering implementation speed with rapid returns.
Eliminate the need to compromise on your accounting solution.
If you would like to discuss the value that Liberation Systems can bring to your business, feel free.
Call *+44(0)1423 509999* or E-Mail: *Liberation@CODA.demon.co.uk.*

Liberation Systems for Enterprise Accounting

CODA

■ **Data and voice networks:** *ATM is springing to life, says* ***Michael Dempsey***

# Ace partners pledge £462m for standards

### Twelve national telecoms providers have banded together to promote ATM under a pan-European initiative

Momentous shifts in the provision of technology services often occur offstage. The intricate details of telecommunications protocols are one example.

It is very hard to get excited about a method of transmitting voice and data that goes by the name of Asynchronous Transfer Mode. The acronym that denotes this protocol is ATM, which is identical to the standard term for bank cash dispensers, or Automatic Teller Machines. So ATM entered the technical dictionaries with an immediate legacy of confusion.

ATM only springs to life when the enormous sums of money behind its rise are mentioned. Twelve national telecoms providers have banded together to promote ATM under a Pan-European initiative known as the Ace (Advanced Communications in Europe) 2000 Forum. These partners have committed £462m to establishing standards for the implementation of ATM. This hefty sum soon makes sense when measured against the estimated market for equipment that will tap into the ATM world.

In Europe alone this is predicted to reach $2.48bn a year by the end of this decade. Clearly, something important is in the air.

ATM itself is essentially a vehicle for the transmission of digital information in a manner that supports video images and computer data. It translates this information in manageable packets, addressing the problem of congestion and data traffic jams on the emerging information superhighway.

The much-vaunted world of multimedia is looking to ATM as a convenient mechanism. The Ace 2000 Forum is intended to co-ordinate research and avoid the kind of technical disparities that could undo ATM's identity as a common language.

With this kind of momentum, ATM would appear to be an unstoppable force. But not everyone concerned with practical networks in the retail field is bowled over by the prospect.

> Thomas Cook has carried out ambitious experiments in multimedia technology

Lesley Mingay's role as development manager for consumer futures at the German-owned travel empire Thomas Cook involves a lot of crystal ball-gazing. Thomas Cook has carried out ambitious experiments in multimedia technology. A series of kiosks operated in tandem with National Westminster Bank have been used to gauge public reaction to remote purchasing of holidays. But Mingay has some hard questions for the ATM community:

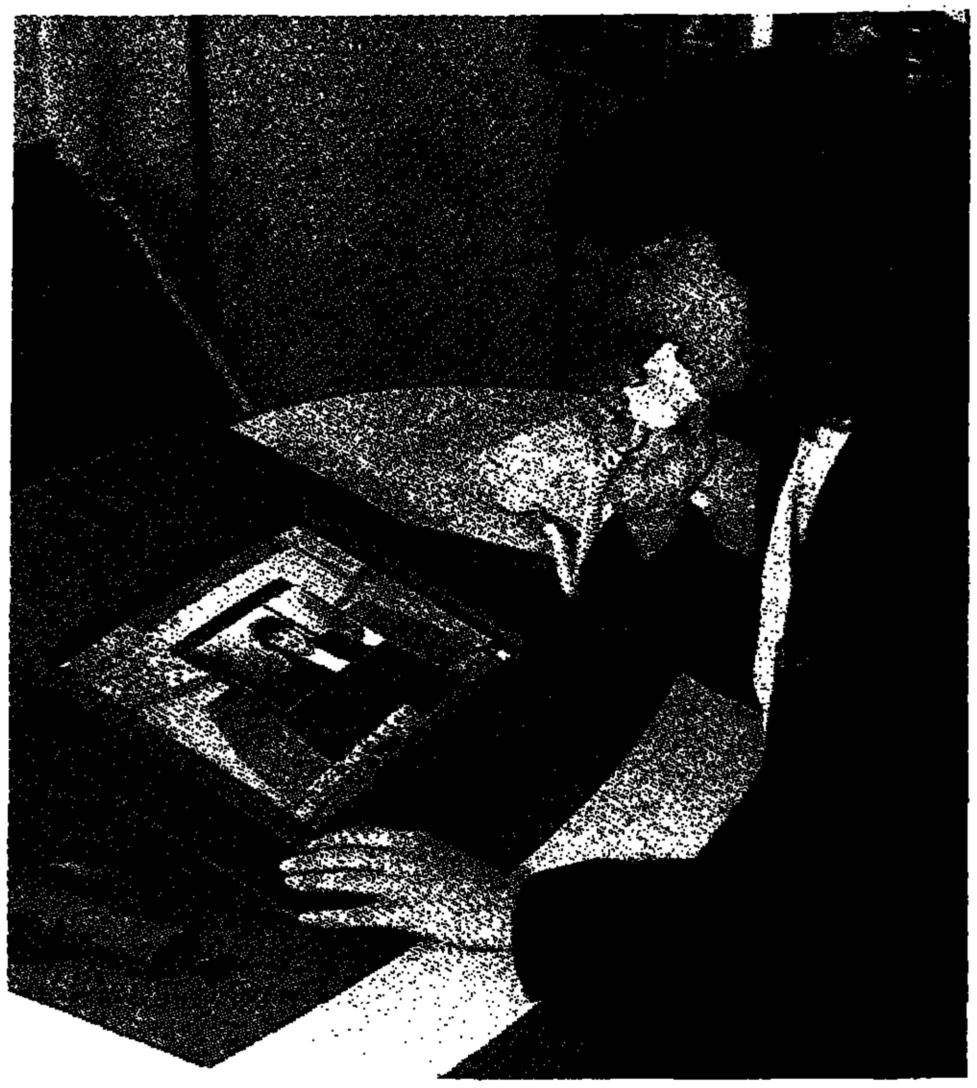
"In theory, ATM would allow us to create a very interactive service. But I want to know how the ATM network providers will charge for their service."

Mingay realises that the European PTTs will want to recoup their investment as soon as possible. She points out that ATM was conceived as a service for large companies that would have lines constantly humming with transmissions. "What about the smaller user who won't want to be transmitting that frequently?"

Thomas Cook is participating in a £4m EC-sponsored project to test retail databases distributed via computer networks over wide areas. The Tourism Information Marketing (Tim) system will rely on ATM technology to transmit queries and replies to potential customers.

Information on specific types of accommodation and particular attractions will flow between travel agencies and local tourist boards. The objective is to get the right kind of data to the consumer with a minimum of fuss.

Tourism is a vast business for Europe. But the industry that surrounds that business does not have deep pockets. The travel sector is notorious for narrow margins, with small companies collapsing on a regular basis. Mingay recognises that Thomas Cook's operation is not typical of her sector.



The Nationwide Building Society's Interact facility uses BT's PC Videophone and ICL's TeamVision software

Financial institutions have generous budgets when it comes to IT. Nationwide Building Society has set up a network of eight multimedia branches on the south coast of England. These allow customers to get information on products and services through touch-screen systems.

A video conferencing system is available for direct contact with financial advisers. But when Andersen Consulting approached Nationwide with proposals for this project they advised basing the network on existing ISDN telecoms lines.

A Nationwide spokesman describes the Interact branches as "probably the most advanced personal finance system in the world." But systems integrator Andersen was not going to wait for ATM.

The Ace 2000 players should not take their future for granted. For voice and data networks to change the face of retailing they have to boost revenues, not sap tight budgets.

---

■ **Database marketing** by Geof Wheelwright

# Clear objectives are important

### Once the database has been established, it can also be quite a challenge to get the most out of it

*The use of computer databases of information to market products for retail organisations is a tricky and exacting business.*

According to Glenne Gibson, head of retail services for the UK arm of consulting giant EDS, there are no universal *national solutions* that can be applied from one country to the next.

The customers and prospects in Britain, for example, are quite different from those in the US, she says.

In the UK, in particular, the issue of using information *technology – and particularly* databases of customer information to do a marketing job – is one of the last jobs that retailers have taken on during their recent efforts to re-invent themselves.

"The better retailers are good now at managing their *manufacturing and have* stripped a lot of the costs out of the whole supply chain," she says. "And they have developed good relationships with their key suppliers and are into EDI (electronic data interchange) and the use of electronic catalogues.

"But where they are weaker is around understanding the customer and relating that to the customer's shopping basket."

She says that when retailers do start thinking about using databases of customer information to try and better understand their customers, they often do so without clear objectives in mind.

"You have to keep in mind what you want to achieve on this and get the thinking clear – you don't want to just have a bunch of systems around it," explains Gibson.

In order to achieve this clarity of the corporate mind, however, she says that more than one keen proponent of data*base marketing must* work from inside the company. "You have to make sure that management from several levels within the company are involved – from store operations, marketing and other key areas," advises Gibson.

*She also says that collecting* information for the database – through customer loyalty programs or the use of Epos (electronic point-of-sale) terminals – must not interfere with the core activities of the retailer, particularly in supermarket chains.

"You don't want to waste too much time at check-out," she says.

Gibson says that particularly where customer loyalty programs are relied on as a way to collect data, the plan is rushed and the end-objective (of having a useful database of cus*tomer information from which* to better plan retail operations) is lost.

"It is a slower process to get that thinking clear, but it pays off," she concludes. "Some have gone straight into a loyalty scheme but they now worry about the quality of the *information they have* obtained. You need to think about building the database and not just the scheme itself."

Once the database is established, it can also be a challenge to get the most out of it. Gibson says that communications within an organisation about the value of the database information are vital to its successful use. It is important to make people aware of the value of the data and then do useful things to do with," she says.

Gibson warns, however, that the flipside to all this is that companies must have a strong and realistic idea of what kinds of "bottom-line" objectives these programs will achieve and then work out what the payback is.

She says that the most successful projects she has been involved in are those where careful and considered financial objectives were a strong part of the development of the database marketing plan.

---

■ **Profile:** Director Portfolio

# New software for executives

### Many organisations require a broad approach which supports senior marketing staff

Traditional marketing software packages concentrate on contact management and lead tracking. While such packages can help build marketing plans, they offer little in the way of day-to-day support for the marketing functions.

For many organisations, the requirement is for a much broader approach which supports senior marketing executives – allowing them to model a number of possible options and base their marketing decisions on a clear view of the future.

"Too many marketing plans end up sitting on shelves. They are never reviewed or revised – or even measured for their success," says Mr Terry Forsey, chairman of Director Portfolio, a marketing software specialist.

"Senior marketing staff need to keep track of their marketing plan on a day-to-day basis and they need the tools to help them do this," he says.

"In the past, marketing support software has concentrated on databases of contacts or executive information systems to do their job. But they are not a lot of help in the modern business environment."

Mr Forsey says that while working as a marketing consultant, he became frustrated with the lack of appropriate software to support marketing executives. His company set about building a package which could offer the high level of support:

"Marketing is about creating a good plan, working out the right positioning for the company and keeping track of the plan's success. You need to know what kind of products and services you must offer for your market, decide on pricing strategies and back that up with a promotional plan and what you expect to get out of advertising and public relations activities. It is important to integrate the forecasting and monitoring activities," he explains.

The result was a package called The Marketing Director which his company now sells to a wide range of organisations to support their marketing activities: "We see our main opportunity in cutting the costs of marketing consultancy. We still take care of the traditional marketing activities such as contact management and lead tracking by setting up databases. But with the Marketing Director we see it in the context of an overall plan which can be monitored and revised," he says.

Mr Forsey claims that the cost of marketing support can be cut by as much 50 per cent by using the package. While there is still a need for some level of consultancy, he says that activities such as writing, publishing, forecasting and reviewing the market plan can be handled by the software – thus eliminating the need for expensive consultancy fees.

"You can review the plan month by month and alter it to reflect the success or failure of activities within the plan," he says.

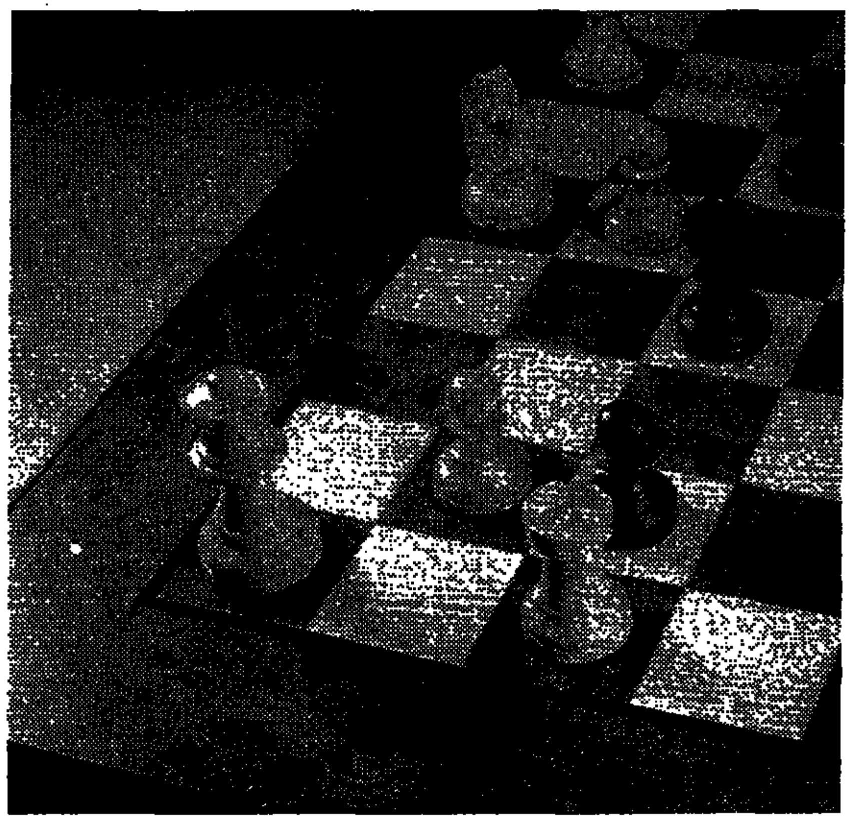
"We have tried to create a package which works the same way that marketing people work. You can develop interactive 'what if' scenarios that let executives develop their assumptions and expectations when conditions change. It may be that, say, a decision to increase the number of sales people in a particular area might need to be balanced by forecasts of demand. The software will *show what the likely problems* are."

Mr Forsey sees this approach to marketing support software as a significant step forward and makes a comparison with the early accounting systems of 20 years ago and those used by companies today:

"If you go back 20 years, accounting systems would only give you a list of debtors and creditors. Nowadays they can be used pro-actively to control costs and generally improve a company's efficiency. We want to make the same move forward with marketing software."

Director Portfolio's Marketing Director package is already being used by leading IT companies such as Xerox, Microsoft and Bull. It aims to take it to a broader market and bring the benefits of marketing support software to companies across the whole spectrum of *commerce*.

**Philip Manchester**



Several Moves Ahead

"Connect!"
TELECOM 95
GENEVA 3-11 OCTOBER 1995

Japan Pavilion
Booth No. 5. 114

*Ricoh thinks and plans ahead. Always one move ahead of the rest, Ricoh is the Grandmaster in office automation and the way to avoid checkmate. Ricoh offers strategic solutions: digital colour copiers that provide you with extensive copying and printing possibilities, multifunctional digital combination units that print, copy and fax and network equipment that increases the digital connectivity. In short, Ricoh can help give you the edge and ensure that you stay several moves ahead. Ricoh - your masterstroke.*

RICOH's
Digital Solutions
Office Automation

RICOH
DIGITAL

**Ricoh Europe B.V.**
Groenelaan 3, P.O. Box 114
1180 AC Amstelveen, The Netherlands
Tel: +31-20-5474111
Fax: +31-20-5474154

**Ricoh Business Machines Ltd.**
23/F., China Overseas Building
139 Hennesy Road, Wan Chai, Hong Kong
Tel: +852-2682-2888
Fax: +852-2866-1120

**Ricoh Co., Ltd.**
15-5, Minami-Aoyama, 1-chome
Minato-ku, Tokyo 107, Japan
Tel: +81-3-3479-3111
Fax: +81-3-3403-1578

**Ricoh Corporation**
5 Dedrick Place, West Caldwell
New Jersey 07006, U.S.A.
Tel: +1-201-882-2000
Fax: +1-201-673-6934

هكذا من الأصل

US company Symbol Technologies is one of the companies pioneering self-scanning systems for supermarkets

■ **Self-scanning:** pilot projects are already under way in Britain and the Netherlands – and soon the US, reports **Tom Foremski**

# Supermarkets check out systems

An additional feature of the system is that stores could use it to capture valuable customer data

Allowing shoppers to scan their own purchases at a supermarket check-out might seem to be a shoplifter's paradise, but supporters of self-scanning say that shoplifting actually declines.

US company Symbol Technologies is one of the companies pioneering self-scanning systems for supermarkets. It is currently involved in several pilot projects in Britain, the Netherlands, and soon, in the US.

Albert Hejinm, a leading chain of grocery stores in the Netherlands has been using Symbol Technologies' self-scanning systems for more than a year. The retailer reports that self-scanning has actually reduced shoplifting losses, and has made check-out faster and more efficient. In addition, customer loyalty has improved.

At Albert Hejinm stores, selected customers are issued with an identity card. When they enter a store, they deposit their identity card in a special data reader and they pick up a small hand-held bar code scanner. The device has just three buttons, marked +, -, =, and a small display. As the shoppers make their selections, they scan the bar code on each item. If they change their minds, they can re-scan the product and subtract it from their total. They can also keep track of how much they have already selected.

Once they are ready to leave, they select a special check-out lane which either allows them to pay with a swipe of their credit card or they can pay a cashier.

Symbol claims that shoppers are mostly very honest. "Shoppers are subject to random checks," explains a Symbol spokesman. "Depending on how accurate their scanning is, we modify an algorithm which tracks the random checks. An accurate score means that that shopper is less likely to be checked the next time."

But what happens if shoppers consistently forget to scan those big turkeys? "We don't call the police," the spokesman explains. "If shoppers are unable to learn how to scan their purchases, we simply remove their identity card and they return to shopping the normal way."

An additional feature of the self-scanning system is that stores could use it to capture valuable customer data that would be invaluable to marketing.

"You can imagine identifying a customer that buys a lot of chocolate, for example, and informing them of any special chocolate promotions. Or if you had birth date information you could send out special promotions for their birthday," he points out.

Some shoppers might resent such an intrusion into their buying habits, but Symbol says that customers would be able to block any data collection if they wished.

The company is set to roll out a big pilot programme in the US. The nationwide supermarket chain Finest says it will use the system in its stores.

Self-scanning does not have to be linked to the check-out. Leading US toy retailer Toys R Us uses self-scanners in its stores to allow customers to check the prices of products. This cuts down on the need to mark prices on every item.

The ultimate self-scanning system would be one that would not require the customer to walk around the store with a small scanner. Customers would simply load their purchases into a trolley and wheel it to a check-out. The cash register would would produce an itemised receipt almost instantly.

Such a system can be built today but it is not yet cheap enough to use on low-profit margin products such as groceries. It requires tagging each item with a special chip called a radio frequency ID chip. This literally transmits the price to a special data reader at the check-out. However, each chip costs about $1. The goal is to reduce the cost to as little as one cent each.

---

■ **Epos systems and terminals:** some retailers are beginning to see new benefits, says **George Black**

# Microsoft sets the pace

Back office systems connected to tills offer management big opportunities for improvement

Microsoft has mounted a campaign to extend its already vast software empire into Electronic Point-Of-Sale (Epos) terminals. It is signing up "Microsoft solution providers" to market Epos systems based on its Windows software.

Sales of tills since the late 1980s have been mainly based either on Microsoft's Dos or on older IBM propriety operating systems. But now some retailers are beginning to see the benefits of systems based on Microsoft Windows, the operating system and graphical user interface which at present dominates the personal computer market.

"We see great benefit from moving to Windows," says Mr Warwick Taylor, marketing manager for the Bolton-based point-of-sale manufacturer Riva Systems.

"Systems with colour screens and graphics based on Windows are very easy to use, which is especially good for part-time staff working in shops and restaurants."

Riva has recently installed Windows-based tills at 98 BT shops. BT is one of the first organisations to instal Windows tills on a big scale in this country. But Mr Taylor thinks that the move from Dos to Windows tills will take place only slowly over a period of years, because the retail trade is traditionally very cautious about investing in information technology.

One of Microsoft's ambitions is that future point-of-sale systems will be run in a client-server structure with Windows 95 superseding Windows 3.1 on tills and Windows NT (New Technology), the more powerful version, on back-office servers.

However, progress in retail information systems does not necessarily depend on installing new Epos terminals.

The important thing is to make better use of the information which the tills can provide. For staff who provide customer service, Windows may make their jobs easier. But for management, it is the back office systems connected to the tills which offer the big opportunity for improvement.

In a project which is claimed as the first of its kind in the UK, Somerfield, the supermarket chain, is testing with 10 of its leading suppliers a system which could allow them to share responsibility for managing inventory in its warehouses.

The project is perceived as a first step towards 'seamless' supply management

"Vendor-managed inventory" or "co-managed inventory" is a concept which has begun to spread from the US to the UK.

Somerfield's plan is to transmit information about consumer demand from IBM and ICL Epos terminals in about 450 stores over a network to a distribution centre which is in charge of replenishing the stores.

Combined with information about marketing and promotion plans to form demand forecasts, it will be sent on to suppliers. They will use the information to generate orders which will be sent to Somerfield for confirmation.

The data will be carried by the Tradanet electronic commerce network service and processed by POS*Intelligence applications software, both operated by GE Information Services.

Ms Karen Myers, supply chain director for Somerfield, says the pilot project will be completed early next year when a decision will be made on whether to develop the system. The aims are to reduce stock-holding for both the retailer and the supplier and to improve the level of product availability to customers.

SMOKE ALARM
SMOKE ALARM

Dixons electrical goods retailers have been using Siemens Nixdorf Beetle point-of-sale terminals to enable cashiers to process sales more rapidly

Mr Mike Trevor, logistics development manager for the household products supplier Reckitt and Colman, hopes that if the Somerfield trial is successful his company and others will be able to receive Epos data directly from the tills.He says that the project is a first step towards "seamless" supply management, in which every sale generates a message relayed to the manufacturer.

"If it works, this will fundamentally change the relationships between retailers and their suppliers," says Mr Trevor. Other retailers are closely watching the progress of the Somerfield experiment before they decide whether to embark on a similar strategy.

The best-rated UNIX® system.

(Does the logo at the bottom of the page surprise you?)

Well, we hope you're not *that* surprised. Actually, IBM is uniquely qualified to provide all the hardware, systems, service and support you need to make sure that the UNIX platform works to its best advantage for your company.

But you don't have to take our word for it. Recently, our RISC System/6000® operating system – AIX® – was rated best UNIX system by independent consultants D.H. Brown.

And, at the latest Enterprise Management Summit, IBM surpassed all other vendors in systems and network management.

On top of that, the IBM RS/6000™ features the PowerPC™ microprocessor, the most successful RISC processor on the market.

*Over 10,000 programs from design to data mining.*

And you'll find RS/6000 connects to all hardware systems including HP,® Sun,® DEC® and PC LANs, so you'll be able to keep working with your existing business computers. What's more, RS/6000 products extend from notebooks to high-performance parallel computers, so your investment is protected as your business needs grow.

*RS/6000 is a leader in UNIX midrange sales.*

What about software? With over 10,000 commercial and technical applications, your network can run everything from engineering to accounting to databases such as DB2/6000,™ CA-INGRES,® INFORMIX,® ORACLE,® PROGRESS® and SYBASE.®

Not surprisingly, when Kodak Japan needed a UNIX system that could deliver faster same-day service and would scale from their smallest warehouse to the largest, they went with RS/6000.

And when United Airlines system aircraft maintenance controllers needed to access critical information instantly and communicate it to a worldwide fleet of 550 aircraft, they chose RS/6000 to keep them connected.

*RS/6000 keeps United Airlines flying on time.*

The UNIX platform is a very powerful tool. And with a reliable and cost-effective RS/6000 system running on AIX, there are hundreds of ways it can help your business stay more competitive. Let us show you how.

Call us on 01705 492149, for more information on RS/6000. Or if you're on the Net, visit our Home Page at http://www.ibm.com.

IBM

10/94 D.H. Brown Report "UNIX Matures" – IBM AIX 4.1. International Data Corporation (IDC) ranks IBM as a leader in 1994 Worldwide UNIX Midrange Systems Revenue. IBM, AIX and RISC System/6000 are registered trademarks and DB2/6000, PowerPC and RS/6000 are trademarks of International Business Machines Corporation. UNIX is a registered trademark in the U.S. and other countries, licensed exclusively through X/Open Company Limited. All other company and/or product names are trademarks or registered trademarks of their respective companies. ©1995 IBM Corporation

■ **Logistics:** new technologies are affecting every stage of the supply chain, from raw materials to supermarket check-out, says **Claire Gooding**

# Bar codes get high-tech links

Brian Marcel: 'It's possible to have a unique bar code at every stage of the supplier chain'

### It is in the area of logistics that the Supertag technology is likely to find its first serious application

The bits of paper that currently record who is carrying what goods and where in containers, trucks and on railways all over Europe may soon be redundant.

They are likely to be replaced by bar codes on the goods which are actually radio transmitters, activated by scanners to deliver the relevant information. A truck will be able to give an instant account of what it is carrying, with details of the load.

*In fact* it is in the area of logistics that the Supertag technology, pioneered by UK computer services company ICL, is likely to find its first serious application. ICL's Supertag is currently doing the rounds of Europe in a "roadshow" to show retailers what can be done with the latest box of IT tricks.

Supertag's origins lie deep in the mines of South Africa, where it was developed by CSIR in Pretoria to keep track of people rather than goods. It is a simple electronic circuit containing a unique number encoded on a silicon chip. This acts as an electronic label, enabling 50 objects a second to be scanned, identified, and counted at a range of 4m.

CSIR's research was subsequently acquired by the British Technology group and licensed by ICL for commercialisation. It could well revolutionise everything from supermarket shopping and baggage-handling at airports to more commercial logistic problems such as parcel delivery or the transport of livestock or meat.

This complex history and rich adaptability of just one idea should surprise no-one involved in IT for logistics in the area of retailing. No other application brings together so many strands of technology.

Logistics have undoubtedly become an integral part of a much broader challenge: supply chain management. The retail sector benefits from the general trend in computing: client server installations, globalisation, packaged software, electronic trading and the trend to integrated, easy-to-use software.

At the same time, retailers have also pushed out the IT frontiers, exploring new areas such as data warehousing for trend spotting and loyalty schemes, geographical information systems, and automatic data collection. They have pioneered multimedia kiosks, radio frequency scanning, and new bar code techniques.

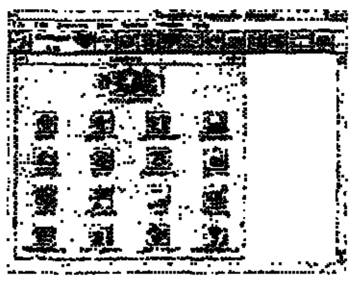
For example, ICL's basket of experimental goods includes centrally-reprogrammable prices, and dynamic LCD keyboards that can be programmed with words and images.

Bar codes are still the traditional technology, and one yet to be fully exploited. Keeping track of consignments in warehouses should become easier with radio frequency identification (RFID) and widespread adoption of another new bar code technology, PD 417.

The PDF 417 (Portable Data File) is a sort of "multi-storey" bar code, which looks like a dappled square. This contains more complex information than the familiar striped bar codes: as many as 2,000 characters in one label – enough to describe an entire shipment. Because of the volume of detailed information it can hold, it is also ideal for asset tracking and management.

"Bar codes are essential if you want to control what you're doing and where things are," says Brian Marcel, managing director of Bar Code Systems of Kingston. "It's possible to have a unique bar code at every stage of the supplier chain, from raw materials to the supermarket check-out."

High-tech scanning with a LIS Dos-based integrated scanning RDT



Fancy a spot of Net surfing? Sure – but isn't it a bit tricky? Well no, actually, because right now CompuServe is offering free membership and the simplest way to get on the Internet. Thanks to some rather brilliant and completely free software called NetLauncher™, you just pop a disk into your PC and you're ready to dive in.

With the help of one of the best Web browsers around, you'll be exploring the wonders of the World Wide Web in next to no time – pages of fascinating *hypertext*-linked information – including pictures from the Hubble space telescope, electronic magazines and virtual museums.

Whether you're new to the Internet or not, CompuServe gives you all the software you need to take a trip around cyberspace, and your first 10 hours are absolutely free. If you ever feel out of your depth, there's full Customer Service Support (Freephone or online), as well as CompuServe's very own New User Forum and Internet Resources Forum. As if all that wasn't enough, your CompuServe membership also gives you access to over 3,000 CompuServe services. So get on the line and get online.

SPRY Mosaic: one-step access to the World Wide Web

free.net.surfing @compuserve

User-friendly CompuServe Information Manager

FREE CompuServe Information Manager software for Windows, DOS or OS/2. FREE NetLauncher™ software for Windows – including SPRY Mosaic Web browser. FREE CompuServe membership for first month including 10 hours FREE access to CompuServe and the Internet; FREE personal Internet address, FREE subscription to the CompuServe Magazine. Successive months membership (£6.20*) includes 5 hours FREE online time.

CompuServe®

CALL FREE: 0800 289378

CompuServe UK, 1 Redcliff Street, PO BOX 676, Bristol BS99 1YN. Open 9am to 9pm weekdays, 10am to 5pm Saturdays. *CompuServe is a global information service and all prices are set in $US, however you will be charged in your local currency based on the prevailing exchange rate. Offer effective from 10 September 1995

■ **After-sales support** can help retailers gain an edge, writes **Philip Manchester**

# Important area for innovation

### The advantages of using an after-sales support package such as Expert Advisor go beyond mere operational support

Competition is forcing retailers to innovate and after-sales support is a key area where they can gain an edge over their rivals. Nowhere is this more true than in the technology retail sector where product lines change quickly and need high quality technical support.

Time Computers, part of the Granville Technology Group and the largest direct seller of personal computers in the UK, takes a thousand calls a day at its 50-strong technical support centre. It is using advanced software to cope with the volume which it expects will increase:

"We will have over 100 support staff on board by the end of this year and they need the best tools to help them solve customers' problems quickly," says Mr Joe Alexander, quality manager at Time Computers. He adds that the PC market is becoming less price-sensitive but that suppliers must be able to gives fast and effective support.

Not only does this involve solving hardware problems such as how to connect printer to a PC, it also covers problems with an ever-growing inventory of software: "Since Windows 95 was launched we have been deluged with calls from customers asking for help in installation and how to use the new facilities.

"We needed an after-sales support package which could help our staff meet the demand. It has to be more than *a simple telephone logging system* – it must help us build up a knowledge base of problems," says Mr Alexander.

Time chose Expert Advisor, a package developed in the US by Software Artistry and distributed in the UK by Soft Toolrack. Mr Alexander says it is in widespread use in the US and came highly recommended:

"Consultants Gartner Group rate it as the leading package in the US but it has only recently come across to the UK. Some companies here are using the package for internal support but I think we are one of the first to use it to support our customers.

"It is a high end product used by many blue chip companies both for internal and external support. It does not come cheap – our system cost £300,000. But we wanted something which could grow with our company."

Mr Alexander says that Time is doubling in size each year and now has an annual turnover of about £100m. The company currently has 200,000 customer accounts.

The advantages of using an after-sales support package such as Expert Advisor go beyond mere operational support, however. By logging common problems, Mr Alexander says, the company can analyse the database and change the documentation it gives to its customers when they make their purchase:

"The package gives us a level of customisability so we can examine the database to see what the most common problems are. Around 90 per cent of the calls we get are about the same 20 problems. We can make sure we change our manuals to focus on these and reduce the number of calls in future."

The problems database also highlights some of the misunderstandings which customers have about computer technology – often with a degree of humour.

"We have had customers trying to use a 'mouse' as a foot pedal or pointing it at the screen and expecting it to work. We even had one customer who asked if he could have a bigger 'mouse' mat because he could not reach the whole screen with the one he had. This shows us how important it is not make assumptions about people's level of understanding of the technology," Mr Alexander notes.

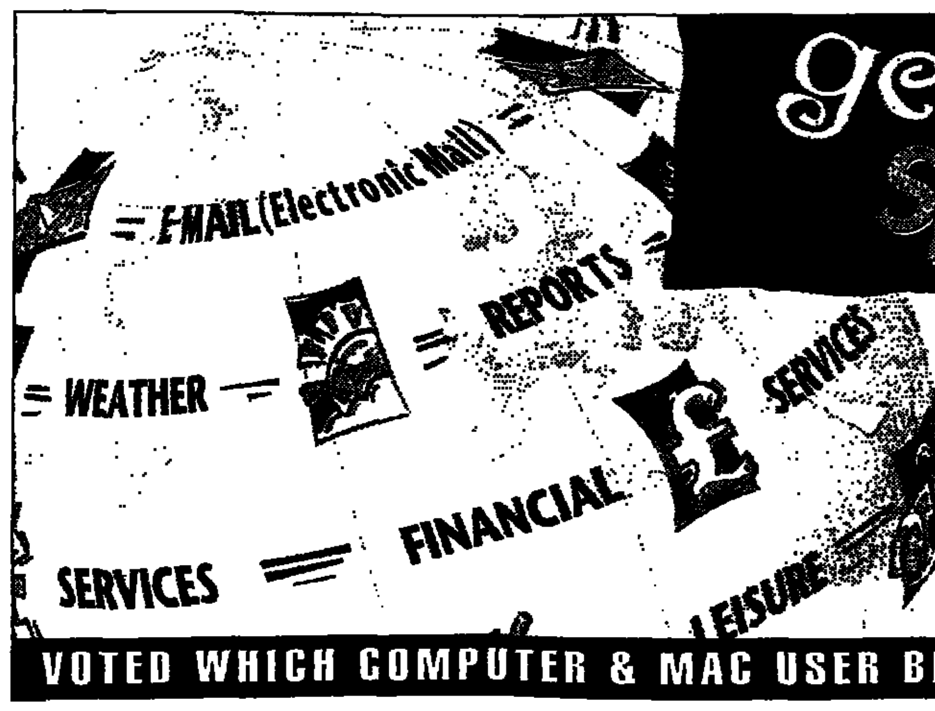
The expanded Top 500.

An expanded edition of the FT survey of the Top 500 companies is now available for £24.

The "FT European Top 500" is a permanent reference of Europe's biggest, most powerful companies, showing how they are positioned for 1994 and beyond.

Companies are ranked by turnover and sector (including separate UK Top 500 lists), by capitalisation showing profit increases and decreases, and by number of employees. A comprehensive address list, with key executives, is also included.

For further details please apply to John White, Financial Times, Number One Southwark Bridge, London SE1 9HL. Fax number +44 (0)171 873 3072.



get ON-LINE with Sportster from £139

THE SPORTSTER MODEM, THE WORLD'S MOST POPULAR CONNECTION TO THE INTERNET

With full fax and data facilities at just £139* RRP for 14,400bps and £199* RRP for 28,800bps.

All U.S. Robotics products are bundled with free data and fax software and supplied with a 5 year warranty.

Sportster Range includes Apple Macintosh specific versions.

*All prices exclude VAT

FREE SPORTSTER GUIDE TO ON-LINE SERVICES

*Please send me my 40 page Sportster Guide to on-line services.*

Mr/Mrs/Ms ________ Initials ________
Surname ________
Title ________
Company ________
Address ________
________
________
________
Post Code ________ Tel No ________

F.T.1

USRobotics

650 Wharfdale Road, Winnersh, Wokingham, Berkshire RG41 5TP

VOTED WHICH COMPUTER & MAC USER BEST BUY • CALL U.S.ROBOTICS ON 0800 225252 FOR MORE INFORMATION

هكذا من الأصل

■ **Interactive retailing** can take many forms, reports **Tom Foremski**

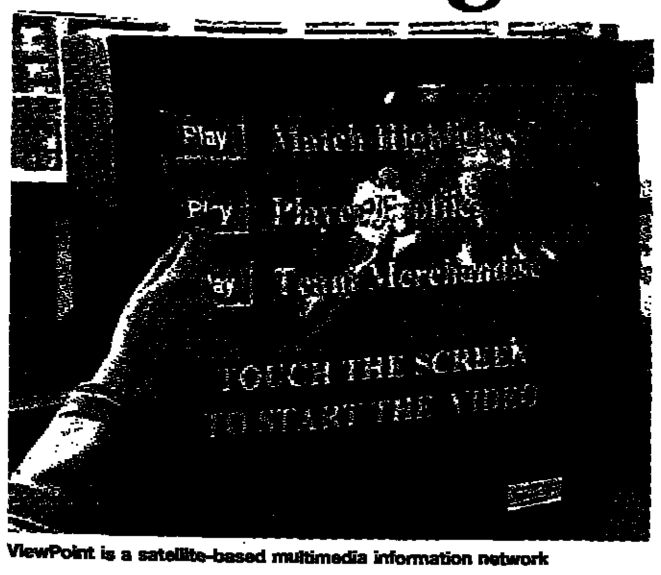
# Latest technologies

## Equipped with a modem and a credit card number, computer users can buy a wide range of products and services

Interactive retailing represents one of the hottest trends in retailing, and also one of its biggest challenges – combining the latest computer technologies with cable, satellite and telephone communications networks.

Interactive retailing can take many forms: from personal computer users linked to on-line services and Internet-based retailers, to multimedia kiosks and interactive home shopping programs over cable and satellite TV networks.

Interactive retailing also includes CD-Rom-based shopping catalogues in which computer users can view high resolution photographs or short videos of products and make purchases directly from their computer. In the case of software programs, it can also mean the direct delivery of products through telephone or satellite links.



ViewPoint is a satellite-based multimedia information network

Computer users already have many different choices for interactive retailing. Equipped with a modem and a credit card number, computer users can buy a wide range of products and services from retailers that have set up virtual shop fronts on on-line services such as America Online or on Internet-based World Wide Web sites.

Customers can view pictures of merchandise and place orders. Industry analysts say that this form of retailing is set to take off once security issues are worked out.

"There has been a lot of concern over security issues regarding credit card information sent over the Internet, but there have been few cases of the information being intercepted and fraudulently used," says Adam Schoenfeld, on-line services analyst at US market research company Jupiter Communications. "It's a peace-of-mind issue and customers already have protection in that they are not responsible for unauthorised credit card payments."

In the US, for example, PC owners can browse through CD-Rom disc-based shopping catalogues such as The Merchant which contains 20 mail order catalogues. Apple Computer, America On-line and Medior offer the 2Market CD-Rom disc with electronic links to America Online for collection of orders and shipping information. Test Drive Superstore offers a CD-Rom disc packed with 70 commercial software programs that can be bought directly from the disk by paying for a password.

IBM Software Manufacturing Solutions and Hughes Network Systems is pioneering DirecPC, a way for software retailers and large organisations to buy software by downloading it over high-speed satellite links.

And interactive retailing is not limited to larger, more expensive items. US company Peapod is experimenting with on-line grocery shopping. Residents in Chicago and in San Francisco can order groceries through their computers from local supermarkets for home delivery. A special software kit allows shoppers to select grocery items by aisle or alphabetically.

For shoppers without personal computers, interactive multimedia kiosks are an effective technology. These consist of a computer with a touch screen monitor and special software displaying high resolution photographs, sound, and video.

South Korean vehicle manufacturer Daewoo has used interactive multimedia systems instead of car salesmen in its UK showrooms. The multimedia systems helped Daewoo record more than £15m worth of sales in their first month of operation.

"These systems have been very successful," says a Daewoo representative. "Customers say they prefer this method of buying cars." Daewoo's multimedia systems also help the company easily capture valuable customer data that can be used for product marketing.

Some retailers hope that the TV will be turned into an interactive shopping system. Home shopping cable TV channels are seen as a precursor to interactive home-based shopping services. While these are still being tested in pilot projects, leading retailers believe it could become a new way to shop, utilising the power of TV with viewer's impulse shopping.

The ultimate interactive shopping technology might be developed with the use of software agents based on Telescript technology from California company General Magic. The software agent could be programmed to look for a specific item but not exceed a set budget. It would then roam on-line networks and check with retailers, negotiating the purchase automatically.

■ **The Internet and virtual shopping** offer a relatively untapped market with an attractive demographic profile, writes **Paul Taylor**

# Retailers wake up to 'cyberspace'

## Most service suppliers report their subscriptions rising by about 10 per cent a month

Over the past 18 months, retailers on both sides of the Atlantic have woken up to the opportunities posed by "cyberspace" – a fast-growing and relatively untapped market with a particularly attractive demographic profile.

Sales of multimedia home personal computers and modems – devices which allow PCs to communicate over telephone lines – are soaring, giving more and more consumers access to on-line services and the Internet and enabling them to sample interactive electronic retailing.

In the US, more than a third of all households now own a PC and the number is growing at about 35 per cent a year. Although penetration is lower in Europe, growth is also strong. At the same time, in the US and now overseas, more and more home PC users are signing up with on-line information services such as America Online, CompuServe, Prodigy and The Microsoft Network, launched by the US software group along with Windows 95 in August.

To date, most of the estimated 6m subscribers to these services have been in the US. However, in Europe, new on-line services are planned by the Europe Online consortium which includes Pearson, publishers of the Financial Times, and a Bertelsmann-America Online joint venture.

Meanwhile there are an estimated 30m people with access to the Internet – the informal collection of computers and computer networks spanning the globe. Most of these subscribers gain their Internet access either through a gateway provider such as CompuServe or through dedicated Internet service providers such as UUNet in the US or Unipalm's Pipex subsidiary in the UK.

Estimates of the size and growth of the Internet market vary dramatically, but most service suppliers report their subscriptions rising by about 10 per cent a month.

Goldman Sachs analysts estimated in a report on electronic retailing published earlier this year that the overall on-line and Internet service industry revenues would grow from $1.2bn last year to more than $4.5bn by 1997, an annual growth rate of 58 per cent.

> CompuServe launched a new electronic shopping centre aimed at UK subscribers

Much of this growth is expected to come from the commercial on-line services such as CompuServe which pioneered interactive electronic shopping and which runs the Electronic Mall. This service is available to its 2.5m members worldwide and includes services from 130 merchants including Brooks Brothers, Ford, Pontiac and 800 Flowers.

Earlier this year, CompuServe launched a new electronic shopping centre aimed at its UK-based subscribers which includes product offerings from Tesco, Selfridges, Dixons, W.H. Smith, Virgin Megastores, PC World and other stores.

Other interactive on-line shopping services include the Internet Shopping Network which was acquired recently by HSN, the broadcast television retail network operator. Comp-U-card which provides a wide range of membership-based discount services, and eShop, an electronic mall operated by AT&T.

Other companies such as American Express, the travel and financial services group, have teamed up with network operators to launch specialist services. American Express announced in February that it was forming a joint venture with America Online (AOL) to provide extensive travel, shopping and bill-paying services on-line to its 36m cardholders and AOL's 1.6m subscribers.

While the on-line networks provide a relatively user-friendly and secure electronic shopping environment, the phenomenal growth and growing accessibility of the Internet, particularly the graphical-orientated World Wide Web, has also caught retailers' attention.

Using web browser software such as Netscape's Navigator, computer users can easily find their way around the Web by simply using a mouse pointing device to click on hypertext hot links which connect different information pages.

Retailers have begun to tap into this market by establishing their own Web pages, often employing an Internet consultant or service provider to design, build and maintain their pages.

Understandably, computer hardware and software companies were among the first to begin marketing and selling via the Internet. But the latest converts include mainstream retailers such as J. Sainsbury, the UK-based supermarket group, which launched its Wine Direct service in April.

Wine lovers can order wine for home delivery directly from Sainsbury's Web pages. To overcome security concerns, customers are contacted by telephone and asked to provide credit card details.

The first "virtual electronic shopping malls" are also beginning to appear on the Internet. Among them, Barclays Bank launched its BarclaySquare Internet shopping site earlier this year in conjunction with Interactive Telephony, a service provider based in the Channel Islands. Among the current retailers renting space are Argos, Toys R Us, and Blackwell's the bookseller.

Commenting on the launch of BarclaySquare in May, Tony Slater, director of sales and marketing at Barclays Merchant Services, said: "Retailers today are faced with increasingly demanding customers who want to shop at all hours and from all possible locations including from home."

Credit card transactions in BarclaySquare are protected by encryption technology developed by Netscape, together with other security measures. Most industry analysts believe that interactive electronic retailing will only really take off when consumers and retailers have full confidence in on-line security.

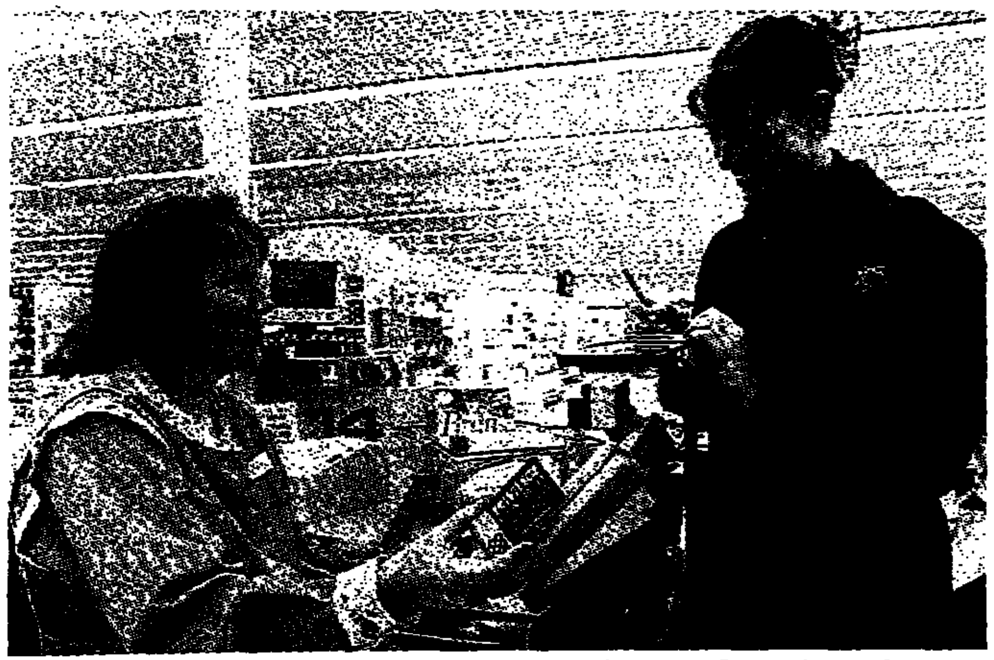
There are a wide number of initiatives aimed at overcoming security concerns. These range from specialist secure commercial file servers such as Pipex Worldserver which provides end-to-end encryption of shoppers' credit cards coupled with on-line secure credit card authentication and clearing.

"Such measures should calm the fears of potential Internet shoppers concerned about unencrypted credit card numbers being intercepted, and those potential Internet vendors unable to trade wholly electronically without a suitable system to authenticate customers' credit card details and process payments," says Pipex. Other initiatives include the Mondex electronic cash card trial which is backed by the National Westminster and Midland banks and is underway in Swindon.

> Most analysts forecast a bright future for interactive electronic retailing

Once security and other concerns – such as the slowness of some communications links – have been overcome, most analysts forecast a bright future for interactive electronic retailing. For example, Killen & Associates, a US-based firm of analysts, predicts that money transmission via the Internet will expand to more than £30bn by the year 2005.

Meanwhile, Goldman Sachs analysts estimate that electronic retailing is an industry worth more than $5bn, mostly in the US. This, they note, "is only a tiny fraction of total retail sales, and so the expansion potential is great."



ICL's ISS300 store management system runs the Central Midlands Co-operative Society's loyalty scheme

■ **Loyalty cards** are big business, writes **Geof Wheelwright**

# A basis for change

## Retailers do not always have a clear idea of what business objectives they are fulfilling

Call them loyalty cards, customer appreciation schemes or "frequent shopper" schemes; whatever the name, they are big business in the world of modern retailing. Over the past few years, retailers have been falling over one another to implement such schemes – and have used Information Technology tools heavily to do so.

But according to Nick Blake, retail industry marketing manager at Olivetti UK, retailers do not always have a clear idea of what business objectives they are fulfilling by setting up a loyalty card scheme.

He says he sees many retail customers seeking to implement such programmes and that in many cases, they are simply doing it because their competitors have done so and they do not wish to fall behind.

"We have seen lots of people wanting to get cards out quickly because their competitors have them," explains Mr Blake. "It has been very much a 'me-too' thing rather than an active strategy to re-engineer the business."

He suggests that far more attention should be paid to the kind of data that is collected about customers through the establishment of the loyalty card scheme and that the intelligent use of this data should form a basis for changes in the way the retailer does business.

Mr Blake observes that many retailers will use the data for either highly-targeted "micro" marketing (for example, if a customer says on their loyalty card application that they have a cat and two dogs, they could be direct-mailed all information about special offers on relevant pet foods) or to take a better "macro" view of the retailer's business.

He warns, however, that micro-marketing using customer data should be approached with caution. "Although in North America it has been quite popular, we think in the UK that this is quite a dangerous thing to do. In the UK, people are very irritated by junk mail," says Mr Blake.

"Retailers in the UK haven't got a lot of experience on this micro-marketing – and the danger is that if they get it wrong, they alienate the consumer base. I think that it is important to get big things right first; find ways to market yourself as a retailer without having to go down to the micro-marketing level."

He says that data from loyalty card schemes can help determine catchment areas for different branches of large retailers, what types of products are bought at what types of branches – and give the retailer a chance to restructure product ranges for different types of localities.

"You can also see what type of ads work best – and make sure you put the right products in the right store," adds Mr Blake. "They can promote that in the branch and then down the line, when they have experience, they can start targeted campaigns."

He further suggests that sometimes retailers do not need a loyalty campaign to get valuable customer information and target their marketing.

"Lots of work can be done in analysing customer data without capturing it in a loyalty scheme," he says. "There is a whole raft of Epos (Electronic Point Of Sale) data at line item level. With this information, they can take an intelligent view of which types of products are likely to be purchased together – and can synthesise a profile of what kind of customers they have. They can do a cluster analysis to work out where there are correlations with things being bought together. So they can learn quite a lot without specifically investing in a loyalty scheme."

Finally, he warns that many loyalty card schemes are designed to attract customers by either giving them "rewards" through a points scheme that offers them gifts or cash discounts as they collect points.

But if the data collected by the system is not used efficiently, Mr Blake says that you "just end up giving away a whole load of margin – and all you have done is maintain your market."

This page is pure information.
It can give you a competitive edge. Unfortunately, it's been organised the same way you organise your information.

If you can retrieve and organise data
quicker and more efficiently
than your competitors,
then you will have the edge.
AT&T can offer you truly
modular massively parallel
capability. This means you
can easily achieve multi-dimensional
growth across hardware,
database and operating systems.
So now you can have unprecedented
business investment protection
for your company's
systems.

can't
make
sense
of
information.

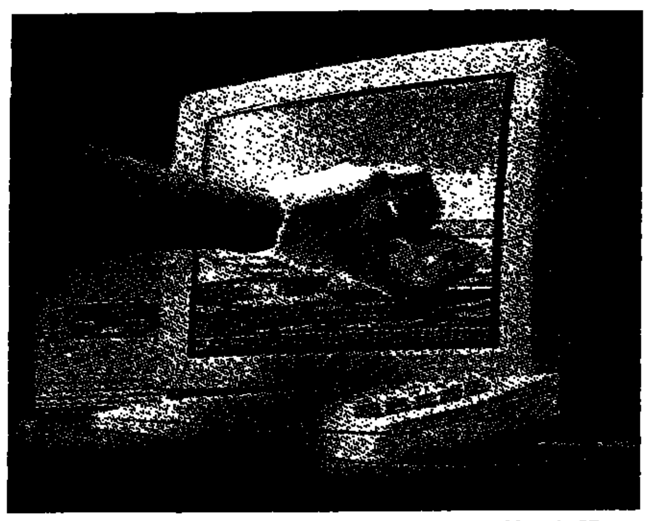
now.

If you can retrieve and
organise your data
quicker and more efficiently than
your competitors then you will have
the edge. AT&T can offer
truly modular massively parallel
capability. This means you can

**Virtual reality and in-store planning:** designers have some new tools, says **Philip Manchester**

# Floor plan with a 3D view

## Virtual reality software combines the floor plan and visualisation to give a realistic impression of what it would be like to walk around the finished store


Superscape virtual reality software helps planners try out ideas in 3D

Retailers must take advantage of every angle to attract shoppers into their stores and, once inside, potential purchasers must be attracted by a combination of imaginative layout and appealing displays.

But retailers must also balance visual appeal with sound business sense. Goods must be arranged to encourage buyers to make extra purchases. Placing all the best selling lines at the front of the store could mean there are areas which are not visited and potential sales opportunities missed.

Traditional approaches to store planning based on "planagrams" give only a two-dimensional (2D) "birds-eye" view of the store. While useful for floor plans, these cannot convey the look and feel of the retail area.

Virtual reality software provides an alternative for planners. They can work on floor layouts and simulate the visual appeal of a retail space. Ideas can be tried out even before the store is built.

"Retailers are obviously looking for an impression of what their premises will look like before they commit themselves. The traditional planagram package like Spaceman or Spacemax is fine for laying out the store and working out how much room there is between the aisles. But they won't tell you what a range of goods looks like on display," says Mr Nick Blake, retail industries marketing manager at Olivetti UK.

"When it comes to planning fixtures you need a three-dimensional view. Take hanging garments, for example. You need to know what they look like. There are packages like Pegman which can show this – but not in the context of the overall plan."

Mr Blake says that virtual reality software combines the floor plan and visualisation to give a realistic impression of what it would be like to walk around the finished store. Olivetti is working with software company Business Development to tap into a potentially huge market for virtual reality software. Other information technology companies have also spotted the potential.

Mr Richard Peers, international sales manager at the specialist software company Superscape, says: "Retail is one of the most active areas in virtual reality in the UK. We are working with many major retailers – although they are keeping quiet about what they are doing because of the competitive nature of the retail business.

> Mr Peers sees Superscape working alongside traditional Cad packages

Mr Peers will not be drawn on specific retailers but notes that "every one of the major food retailers is looking at the potential of virtual reality for planning." He sees products such as his company's Superscape – a general-purpose virtual reality modelling package – as working alongside traditional computer-aided design (Cad) packages.

"Virtual reality does not replace Cad packages. But it can help retail space planners in different ways," he explains. Mr Peers draws analogies with desktop publishing software where designers can experiment and see what a publication might look like without the bother of laying it out in the traditional way.

"It can help in the visualisation process because you don't need the engineering detail that a Cad package needs. This means you can speed up the decision-making process in store design."

Mr Peers adds that Superscape can "export" the final design specification to a traditional Cad package so the required detail can be incorporated in the architectural design.

"It goes further than this. You can also use the virtual reality model to train staff even before the store is opened. Again, this cuts the time taken to open new premises."

The potential for virtual reality does not stop there, however. Mr Peers says that Superscape is experimenting with a system which can accept detail from the point of sale and see which products are moving in the store. "You can actually see what might attract a customer to a display and re-arrange the store accordingly."

**Multimedia for training:** the technology promises savings on staff training, writes **Philip Manchester**

# Resolving the dilemma

## 'Product awareness' training is currently the main use of multimedia in the retail sector

Staff training is a dilemma for retailers. Increasingly complex product ranges and growing competitiveness mean that staff must have more knowledge and skills than previously. But high staff turnover means that training costs must be kept low.

Computer-based training (CBT) and video have helped to resolve the dilemma. Multimedia technology promises further savings on training costs – and even offers the potential to improve the effectiveness of a retail operation: "Corporations have been looking at ways they can save money by using multimedia. Now we are moving to the stage where they want to use multimedia technology to make money," says Mr David Conti, director of marketing communications at the US multimedia software specialist AimTech.

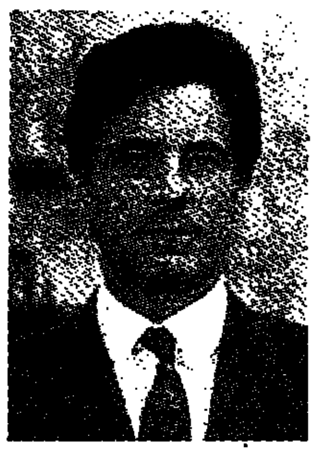
"The same multimedia technology gives a retailer the opportunity to help the customer in addition to training staff. Retailers can cut training costs by producing multimedia training materials on CD-Rom. And the same material can be used to inform the customer about products," explains Mr Conti.

The advantages of using multimedia for training in a fast-moving retail environment are self-evident. Product specifications change quickly and staff must be constantly retrained to keep ahead of their customers. This kind of "product awareness" training is currently the main use of multimedia in the retail sector.

"The materials can be updated easily and transferred to staff quickly," says Mr David Aldridge, European vice-president of multimedia software company Gold Disk.

"One national chain of shops in the UK updates its multimedia training materials overnight across the network. Video would be too slow. But with networks you can squirt it down the line so it is ready the next morning."

Mr Aldridge acknowledges that this use of multimedia builds on existing approaches to CBT. The multimedia technology provides a faster and more effective delivery medium for training materials. But this is only the beginning. Multimedia can also offer other benefits.


David Aldridge: 'Materials can be transferred to staff quickly'

"We are at the level of year three – coming up to school age, you might say, in terms of the life cycle of the technology. The real breakthrough comes when you bring in interaction between the material and the trainee," he explains.

The US is further ahead in the use of multimedia for retail training and Mr Conti says some companies are already using it for skills training: "We have worked on a project with the motor manufacturer Lexus which is using multimedia to help in car sales. It is a big system, occupying five CD-Roms, and includes customer service role-playing. You can train people to deal with difficult customers. It explains how a salesperson can still get the sale without giving too much away to the customer."

Mr Conti points to some early success with this approach – which is less intimidating for trainees: "Trainees find it easier to role play with digital video sequences than in an open training session. They feel intimidated if they have to act out a role in front of their peers."

The system used by Lexus offers other advantages. The product awareness material in the multimedia package can be used by the salesman to demonstrate the product range to customers. Multimedia training material, like traditional CBT, can also be used to monitor a trainee's progress. Results can be stored in a database and trainees can work at their own pace.

Mr Conti also notes that the training material can also be used by sales staff when they have spare time: "Many retail operations have slow periods when staff have little to do. The accessibility of the multimedia training package means they can go and refresh their knowledge while they are waiting for customers."

**In-store security systems:** the number of applications is growing, reports **Michael Dempsey**

# Squeezing out extra value

## House of Fraser aims to protect its turnover from thieves while making IT and electronic systems investments pay their way

House of Fraser is a £722m retail chain with 52 department stores throughout the UK. Unfortunately this retail empire is attractive to thieves as well as customers.

But the group takes this threat very seriously and recruited Dr Tony Burns-Howell as security director from electrical goods chain Dixons at the beginning of this year. His track record at Dixons involved installing 1,000 sophisticated intruder alarms, yielding a 30 per cent reduction in burglary over two years. Dr Burns-Howell is determined to build on this success.

House of Fraser has invested in high-tech security systems and is learning to squeeze extra value from these assets.

For example, the intruder alarms from Integrated Electronic Systems of Maidenhead can count bodies entering the store. During normal business hours this gives managers an ability to monitor peaks and troughs of demand electronically. Dr Burns-Howell is preparing to go one step further. "By linking this [information] to our computerised tills we can make a crude equation comparing the number of people who entered the store with the number we actually served."

IES supplies dedicated hardware and software that links the people-counting ability of its alarm system to Electronic Point of Sale (Epos) systems. This facility is currently going live, attached to computerised tills and scanners from AT&T's NCR arm.

"We want to make better use of existing technology and we're keen to go beyond sound and movement detectors," says Dr Burns-Howell. The intruder alarms cost up to £5,000 per site. House of Fraser is acquiring a significant enhancement to its customer data from an essential investment in basic security.

Jim Holmes is AT&T's account manager for department stores in the UK where his company has installed £50m worth of equipment. Mr Holmes finds security applications are growing in their scope.

"We can provide security software sitting on a central processor within a network of Epos terminals," he says. He cites one application that will trigger a video camera to zoom in on a till when it is opened using the No Sale button. This can provide photographic evidence of pilfering.

Burns-Howell: 'We want to make better use of existing technology'

Closed Circuit TV is a familiar concept in retail security. At House of Fraser, Dr Burns-Howell is co-operating with other retailers in order to make CCTV a force to be reckoned with. Members of the British Retail Consortium already maintain picture libraries of convicted thieves acquired via CCTV. Now they are investigating ways of capitalising on this asset via facial recognition techniques based on digitising images.

Dr Burns-Howell is aware that data protection legislation can impinge on such databases. But he is confident that his information poses no problem for honest customers.

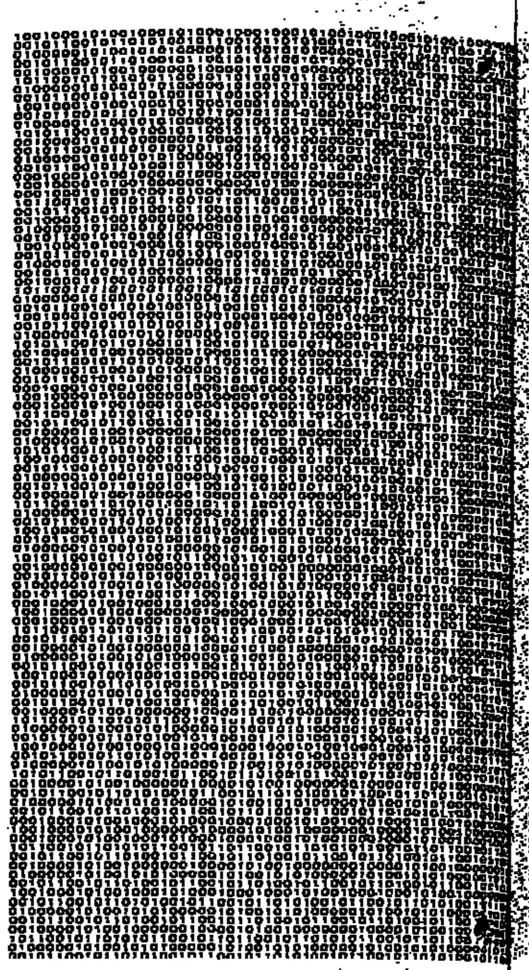
"We think this system will not become a data protection issue because it is a matter of public record that these people have already been convicted of theft. This is crime prevention."

Video-conferencing has been foisted on many companies as a trendy management tool. House of Fraser has found a way to dodge the sales pitch and set up its own network without putting further pressure on the IT budget. The group is just beginning trials of a video-conferencing system that is a logical extension to the CCTV system.

"We're linking it through our internal data networks," Dr Burns-Howell explains. The technical challenge has been to upgrade the 4 frames per second (fps) rate of picture refreshing that is adequate for store surveillance. For human communication, 25 fps is the goal. Dr Burns-Howell thinks it can be done.

House of Fraser aims to protect its turnover from thieves while making IT and electronic systems investments pay their way. IES is involved in extending the CCTV capacity to video-conferencing. Mike Unwin, its group technology director, thinks the House of Fraser approach puts his client "at the forefront" of turning security systems to profitable use.

---



Your customer da has
given you a clear pict

Until day.

Announcing The Ope
For Decisi

Decision support is one promise of information technology that has never been fully realised. Its aim is to help you uncover trends hidden in your databases, so you can manage information to satisfy customers and compete more vigorously.

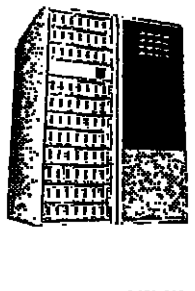
Unfortunately, there's been no practical technology to make largescale decision support possible. Companies that have tried haven't offered much beyond some hardware and a handshake. But now, Unisys presents the most comprehensive decision support solution in the industry. It's built around the *Open Parallel Unisys Server (OPUS)* – a joint Unisys and Intel initiative in scaleable parallel processing. And it can organisation to be more respons

*OPUS* breaks through the cessing from being commercially and offers unsurpassed database application portability.

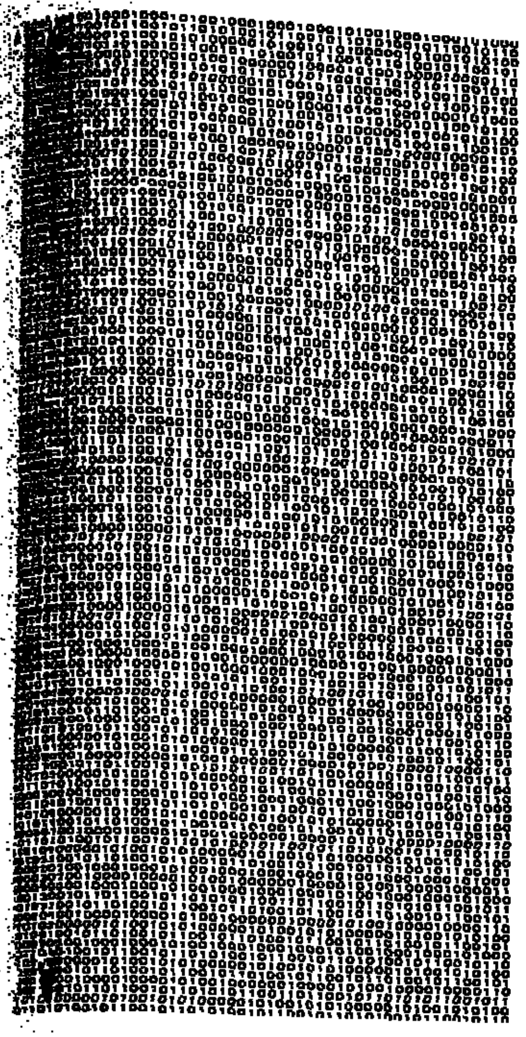
UNISYS

THE INFORMATION M

© 1995 Unisys Corporation. Oracle is a registered trademark of Oracle Corporation. Red Brick is a registered



هكذا من الأصل



has never really

re of your customer.

today.

Parallel Unisys Server

Support.

p you **CUSTOMERIZE** your
those you serve.
that have kept parallel pro-
It's UNIX based for openness.
endence, with easy growth and

*OPUS* supports databases from Oracle, Red Brick and other leaders. Plus, there's already a portfolio of applications to make decision support an instant reality for key industries. And to deliver a complete solution, Unisys is deploying a new service team dedicated to decision support consulting and implementation.

To receive your *OPUS* information, contact us on the Internet at http://www.unisys.com/adv or fax Graham Roberts on +44 1895 862807.

*Because once* you can manage information instead of just processing data, you'll get a clearer picture of what's really important to your success – your customer.

UNISYS

AGEMENT COMPANY

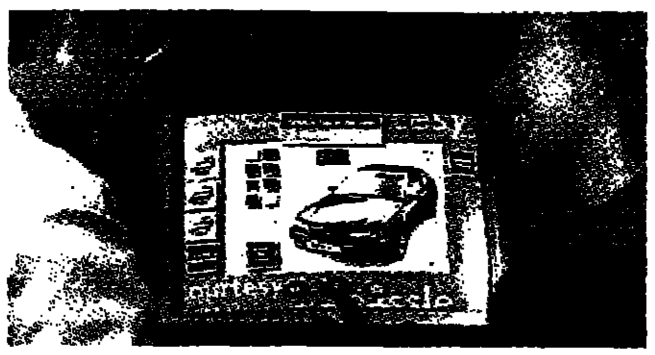
The Intel Inside and Pentium Processor Logos are trademarks of Intel Corporation.

هكذا من الأجل

■ **Multimedia kiosks** help Daewoo Cars eliminate the fear factor from showrooms, says **Joia Shillingford**

# Customised car sales

Kiosks are used by other companies to sell holidays, home insurance and duty-free goods



Kiosks at Daewoo sites enable customers to picture the car they want

When Daewoo Cars wanted to break into the competitive UK car market, it did so by promising that customers would not be "sold to."

Instead of salesmen, multimedia kiosks at Daewoo sites enable customers to build up a picture of the car they want and find out about finance.

A multimedia kiosk usually has a multimedia personal computer (PC) built in, but somewhat disguised so that customers do not find it off-putting. Usually, the PC's screen will be the only part of the computer on view and this will be embedded in a free-standing column, desk or booth. Kiosk screens tend to be touch-sensitive so customers simply point to and press the options they want.

Using multimedia (which brings sound and video to the PC) is an extension of Daewoo's whole philosophy, which is to be different from other car manufacturers and to make car-buying a hassle-free experience.

Daewoo Cars, which is a UK subsidiary of Daewoo of Korea – the 33rd largest company in the world – was set up in the UK in 1994. It soon began looking for a way of making it easy for customers to acquire information without talking to anyone unless they wanted to, and multimedia proved to be the best technology on the market.

So when the company began selling cars – in April this year – it installed 200 multimedia systems. Now, when customers go into Daewoo sales outlets (including the 136 Halfords Service sites where its cars can be test-driven), they can retrieve the information they want from a colourful screen. Simply by touching on-screen "buttons," they can define the car they want and see a video image of it, and they can inquire about financing.

"If customers want to take a test drive or ask more questions, they can approach a customer adviser who is not on commission: our advisers won't approach them," says Dorian Leroy, the company's marketing manager.

"We are trying to remove the fear factor – the fear of being pressurised into buying something they don't want or which isn't good value for money," he says.

Daewoo's system cost £300,000 to develop – including in-put from two London-based consultancies: 1/2/1 and Julia Schofield Consultants – and has helped to generate car sales of £15m. The hardware it runs on – ICL multimedia Pentium-based PCs connected to printers – costs about £5,000 a unit. The system can be net-worked or used in stand-alone mode.

The whole project was completed in six months, including a children's version of the system. "Daewoo sells medium-sized family cars ranging from just over £8,000 to just over £12,000, so we wanted to get across a family feel," says Andrew Thompson, information technology director. "In our motor shows in Derby and Rotherham, we have a creche and a children's area, where kids can use the system designed for them. There are also childrens' systems in the car centres.

Children can design their own car, for example adding tyres and wheels. If they want to, they can swap standard accessories, such as hub caps, with more bizarre ones such as hub caps with spikes, or cart-wheels instead of car wheels.

The feed-back from users of both adults and childrens' systems has been very positive. Mr Thompson says: "We've conducted some exit polls of users of the main system and it has scored over 95 per cent in all areas, including ease of use and satisfaction with what's been displayed."

As well as providing new routes to market, multimedia kiosks are being used to promote goods and services.

In the UK, lager company Carling Black Label has developed the Carling Black Label Shootout, a quiz-type football game based on interactive consoles located in public houses and clubs.

Sometimes multimedia kiosks have videoconferencing links built in. For example, kiosks at some branches of the Nationwide Building Society enable customers to find out about mortgages.

If more information is needed, customers can carry out a videoconference with a member of staff (at a remote site) by pressing the videoconferencing option.

Other uses of kiosks include a Thomas Cook-National Westminster Bank kiosk which can be used to book holidays or buy home insurance, and tax-free kiosks at Heathrow airport, which enable users to buy duty-free goods and have them sent overseas.

The design of the kiosks is very important. At Nationwide each kiosk is like a desk with a screen set into it, so customers can sit down while they are using it. The kiosks are also located in secluded areas of a branch office, such as a corner where customers are not overlooked.

The kiosks were specially designed because research carried out by the Nationwide showed that if a machine looks like a cash dispenser, customers will only be willing to use it for a short time.

Kiosks must also be eye-catching enough to make customers stop and use them. Trade at the duty-free kiosks in Heathrow was slow until a large sign saying "Tax-free shopping" was added.

*Joia Shillingford is Associate Editor of the Financial Times newsletter Business Computing Brief*

**HOT TOPIC** Direct marketing helps airline SAS retain valued customers

# Rewards for passengers

Roy Barker is in charge of database marketing at the Loyalty Marketing Services arm of US marketing company Carlson. This unit employs 120 people at two sites in the UK and is concerned with exploiting incentive schemes to the full in order to retain valued customers for clients which include Scandinavian carrier SAS and Northwest Airlines.

Barker's primary tool is a £2,000 IBM Thinkpad notebook computer running FastStats, a program supplied by Peterborough company Raymead.

FastStats compresses data from extensive sources, such as company databases, into manageable chunks. It also helps users analyse marketing information. Raymead specialises in this field and sells FastStats for between £1,000 and £12,000, depending on user numbers and configuration.

"Right now I'm running records for an airline client on my Thinkpad," says Barker. "I can assess where types of passenger have flown and pull off profile data, information on the age and economic status of passengers." The point of this information is that it allows Carlson to intervene promptly on behalf of its clients. "If we see a competitive situation, such as a route launch by a rival, we can react," says Mr Barker.

His job is to work out which prized customers, already enrolled in a frequent flyer programme, are potential defectors to the competition. Their travel patterns indicate whether the new route could prove attractive. The direct marketing operation then has an opportunity to head off this threat. "We can keep those passengers on board by rewarding them."

Mr Barker can target very specific segments of the customer base with precise mail shots. A smart database is the starting point for this operation. But he believes that technology can contribute right down the line.

"You've got to be able to make the customer selection quickly. Then you must have links to laser printers and envelope enclosure facilities so you can get the mail shot out inside 48 hours."

The best marketing information will be let down badly by delays in getting material to the target sector. So any equipment that accelerates the production process is a worthwhile investment.

The alternative to this precision mail shot is what the marketing world refers to as Tactical Press Work, or TPW. The aim of TPW is to place a newspaper advertisement at short notice. This can boost loyalty by offering discounts, but it has disadvantages, says Mr Barker.

"The competition know what you're doing; it's not discreet. And our method of direct marketing is more cost-effective. You may not need to discount as heavily to deliver the same result."

The SAS frequent flyer programme, EuroBonus, has 720,000 members. Bi Krimer, the Stockholm-based director of the scheme, stresses that EuroBonus means much more than awarding points to air travellers. Since 1992, SAS has operated an in-house database collating the movements of EuroBonus members and allowing Krimer to direct mailings to different segments of the group, divided into blue, silver and gold categories.

"Before 1992 we didn't really know who the customers were," says Krimer. "Now we can give our customers recognition for their loyalty."

The hub of SAS's intelligence about its own business travellers is a database designed by its own staff. Nothing the software industry had to offer was up to the job, says Krimer.

SAS was confident enough about what it was doing with EuroBonus to protect its commercial ideas and reject any compromise foisted on its marketing department by an external supplier.

The system runs on an IBM AS/400 machine, taking passenger data from across Europe every night. Within 24 hours of a frequent flyer taking off with SAS, the airline's head office knows about that journey.

Krimer is proud of SAS's independence from the IT industry. "Every line in that program is our own. AS/400 technology comes with some tools of its own which we used to write it, but we don't have any standard software on this project."

*Michael Dempsey*

■ ***Data warehouses and data mining:*** can be the key to a competitive advantage, writes **George Black**

# Useful new systems

It will be several years before data warehouses become common in the retail trade. But the signs are that this is a technology which will spread

Leading retailers are beginning to embrace the concept of data warehouses as a key to gaining competitive advantage.

A data warehouse is a means of organising data from diverse sources so that, with the use of new software tools, it can be easily retrieved and analysed by people who are not computer experts.

A similar and complementary technique is being referred to as "data mining."

In the retail trade, such new systems could prove extremely useful to buyers, giving them as much information about past sales as their suppliers have.

In the past much of the information gathered from the tills has not been fully exploited for discovering sales patterns and promoting cross-selling.

Now retailers have realised the potential of data warehouses for rectifying this.

One of the biggest controversies of the computer industry in the past few years has been which is the best software technology to build such systems.

Mr Ted Codd, a leading database authority, has said that relational databases are not well suited to the needs of systems which carry out on-line analytical processing (Olap).

This was widely understood to endorse the claims of new companies selling multi-dimensional database products, particularly Arbor Software, against the more well-established relational databases such as Oracle, CA-Ingres, Sybase and Informix.

Supporters of the multi-dimensional database structure argue that it is best designed to serve on-line analysis of sales across stores and product lines.

If Mr Codd is right, the database market could be opened up to many new software companies with alternative approaches.

The relational database companies are seeking to ensure that they are not outflanked by forming relationships with newer entrants to the market.

Oracle, for example, recently acquired the database products of IRI Software, a pioneer of Olap technology.

Retailers themselves seem to be adopting a pragmatic stance on this issue. Some are taking one route, some the other; some are creating a hybrid solution.

Sears, the US retailer, has a hybrid data warehouse system covering about 800 stores which combines Informix relational technology with Arbor's Essbase multi-dimensional database.

One of the pioneers of data warehousing techniques was Wal-Mart, the US retailer, which introduced a system to track fashions across the country and maximise its profit by reacting quickly to market changes.

"Most retailers are hoping to gain competitive advantage from data warehousing; Wal-Mart proved it can be done," says Mr Reen Van Marion, industry director for fast-moving consumer goods at Andersen Consulting.

Some of the leading European retailers are now trying to build systems that will do for them what Wal-Mart achieved, he says.

At present only a few of the largest retailers can afford such an investment, which is likely to run into millions of pounds. Besides, it is not just a question of installing new technology but of finding the expertise, which is in short supply.

That means it will be several years before data warehouses become common in the retail trade. But the signs are that this is a technology which will spread.

Next, the UK clothing store chain, has tested a data warehouse at its Leicester headquarters. It is based on an Informix database running on Sequent servers and uses Olap software from the French company Business Objects. Recently Next decided on an important investment in the system.

Mr David Armitage, business development manager, says: "We had extremely positive results from the pilot study. We have succeeded in analysing our cross-selling and have also been able to evaluate the effectiveness of various types of marketing activity on a day-to-day basis."

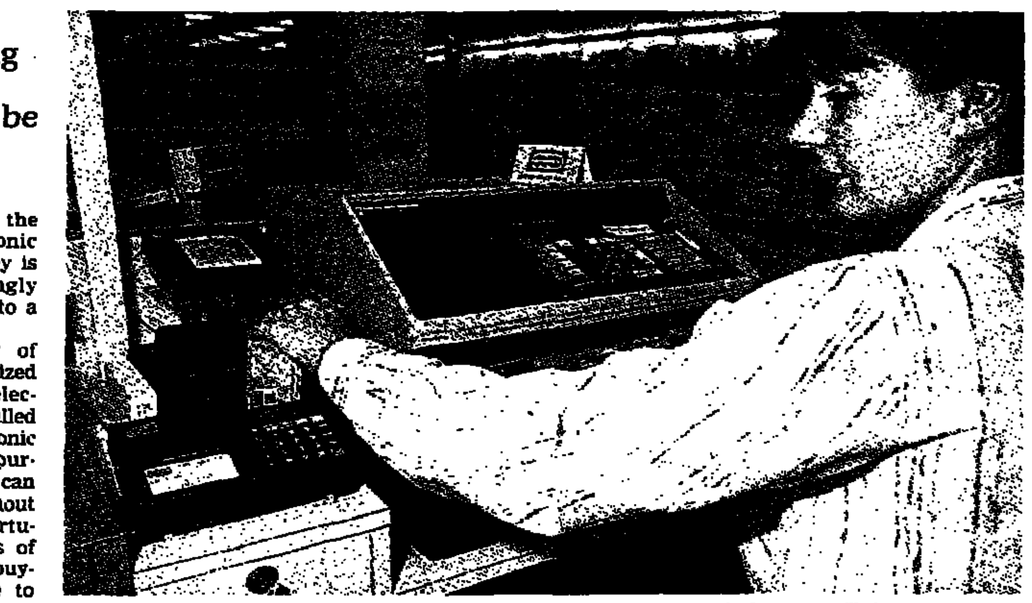
He says the company's investigation found that no current multi-dimensional database could handle the volumes of data required – 20 gigabytes at present and up to 150 gigabytes within two years.

However, Next is continuing to review both multi-dimensional databases and Olap tools because this area of software technology is evolving rapidly.

■ **Smart cards and electronic money:** a UK trial attracted worldwide attention, writes **Tom Foremski**

# Digital cash in your chips

### Issues such as money-laundering and evasion of taxes have yet to be dealt with satisfactorily



The largest smart card trial is the Mondex project which began this summer in Swindon, Wiltshire

From gold coins, to the exchange of electronic bits and bytes, money is evolving into increasingly abstract forms but also into a more efficient medium.

With the development of smart cards, credit card-sized devices containing an electronic chip which can be filled and emptied of its electronic store of digital money, purchasing goods and services can now be accomplished without any visible exchange. Fortunately, as the pilot trials of smart cards have shown, buyers and retailers are able to quickly adapt to this new form of cash.

The largest smart card trial is the Mondex project which began this summer in Swindon, Wiltshire. It is the culmination of five years' work in developing the supporting technology and moving to ever-larger trials. The Swindon trial is organised as a joint venture by the National Westminster and Midland Banks and British Telecommunications and will involve about 40,000 people and as many as 1,000 retailers.

Mondex cardholders use the smart card just like cash. They can use it for small purchases such as a can of soft drink and also for larger purchases, of up to £500. The cards can be recharged with "cash" by inserting them into specially adapted automated teller machines or by using a Mondex telephone which transfers money from a bank account to the user's card. Mondex also allows users to transfer money from one card to another. "For example, if I want to lend my brother a fiver, I can do that over the telephone," explains David Birch, a director of consulting company Hyperion, which is involved in the Mondex trial.

"Electronic cash will ultimately succeed because it is cheaper and more effective than regular cash," Birch claims. Mondex cards offer some security in that the transactions would be very difficult to trace to a specific user and can also be "locked" so that others can not use the card. In practice, Mr Birch says, few people bother locking their cards but the security feature does provide some peace of mind.

In the Mondex system, retailers are equipped with special card readers that determine how much cash is contained in the card and which can complete a transaction.

The system has attracted attention around the world with plans for pilot projects in Hong Kong, Canada and San Francisco. The Hongkong and Shanghai Banking Corporation has applied for franchise rights for Far East countries, including Hong Kong, China, India, Indonesia, Macau, the Philippines, Singapore and Thailand.

The Royal Bank of Canada, and the Canadian Imperial Bank of Commerce will, together with telephone company Bell Canada, set up a pilot project in early 1996. And Wells Fargo Bank in San Francisco is also planning a small pilot project involving its employees and nearby retailers.

While the Mondex trial shows that smart cards and electronic cash are practical ways to pay for goods, the future of electronic money is moving from smart cards to a form that can be used easily over computer networks such as the Internet without the need for special cards or readers.

True electronic cash must embody all of the properties that cash currently has, and one of these is anonymity. This can be achieved through the use of powerful encryption technologies in which digital signatures can authorise and verify payments but are almost impossible to trace.

But anonymity and electronic distribution also raise other issues such as money-laundering and evasion of taxes which could be made easier with electronic cash. These issues have yet to be satisfactorily dealt with.

---

■ **Service level agreements:** beware of hidden extras, warns **Nuala Moran**

# Level of service must be defined

FT IT outsourcing and facilities management

### Work out exactly what service is required before you approach the suppliers

*Service level agreements tell customers what they should be getting from their IT suppliers. But how are they set up, and how do companies ensure they are getting what they pay for?*

Brian Gunn: 'Service level agreements must be flexible'

"Amazing offer: Let us take the pain and strain out of running your computer systems for 20 per cent less than it currently costs you to do it yourself."

Like all offers you cannot refuse, the question this one raises is "Where's the catch?"

The catch, as always, is that there will be hidden extras unless you ensure the price is tied to an agreed service level. This should match what is currently delivered in-house, and be embodied in a service level agreement which is measurable, indisputable and enforceable.

"In other words, companies should define service levels in advance and ask suppliers to bid against service level requirements," says Bob Aylott, head of outsourcing practice at KPMG. "But too often they say come and take it off our hands and we'll talk about service level agreements later."

This way lies trouble. More than a quarter of the 230 organisations surveyed in PA Consulting's 1994 IT Sourcing Survey had had such a bad experience with outsourcing they were taking IT back in-house. Cost escalation and lack of quality of service figured high on the list of reasons.

Working out exactly what service is required before approaching suppliers avoids both these problems, according to Mr Aylott. "You get a better deal financially and it will meet your expectations because the supplier knows what he or she is committed to."

Most companies have some measurements of the service they get from the in-house IT department. While this may be adequate for internal controls, elements such as advice, IT strategy and user-support levels are there by custom and practice and may not be defined.

"You tend to find that companies never had a real idea about the cost of computing because they were not costing all aspects of staff and support costs," says George Ryder, director of Philips Communications and Processing Services, the electronics company's outsourcing division.

Most contracts allow for a verification period in which the supplier has chance to check that the customer's assessment is correct. This is particularly important in government contracts where the bidding process takes a long time.

"Often, when you get to do the work, the information is two to three years out of date and what you inherit is different from the invitation to tender," says Keith Wilson of EDS who works on the Inland Revenue contract.

The service level agreement defines what, where and when. For example: "The customer services application will be running on 24 workstations in the Basingstoke office from 9-5 Monday to Friday."

It should also define quality elements such such as response times, or how long it will take to fix a fault.

Part of the appeal of outsourcing companies is that they can do more with less. But it is a mistake to set a higher service level from a supplier than the in-house team is currently providing. "During the first three months, the supplier will be preoccupied with getting to know you and you should be pleased to see that the service level is preserved," says Mr Aylott.

Service level agreements must form part of the contract signed with outsourcing suppliers for compensation clauses to be legally binding. But while in the absence of any dispute the contract should gather dust, the service level agreement becomes the working document of the relationship. The agreement specifies what compensation should be paid for service failures – which is paid for loss suffered by the customer rather than as a penalty on the supplier.

"It may be more potent to go for embarrassment than maximum financial compensation," says Mr Aylott. "One deal said £1 should be paid for a failure but the credit note had to be signed by the chief executive."

To get the best price, customers must define requirements very closely. But this begs the question of what happens when, as it surely will, the business requirement changes or new technology comes on the market.

"The idea is not just to fix certain things in place but to clarify where there is, or ought to be, room for manoeuvre," says Richard Benton, group director of Capita Managed Services.

Brian Gunn of Integris agrees: "Service level agreements must be flexible enough to accommodate minor changes without penalty."

The answer, according to David Morris, IT manager of Wessex Water, is to see service level agreements as a business rather than a technology issue. "I'm not remotely interested in how the computers are running; I'm interested in meeting agreed business objectives."

Tim Foreman, outsourcing manager at Hewlett-Packard, uses this approach: "With a large client server system you could specify thousands of service levels, but if the business objective is to allow the branches to use a particular application, the service level agreement should simply say make this application available."

And rather than pouring over piles of monthly statistics on uptime and downtime, tying service levels to business objectives provides customers with a potent way of policing their agreements.

The way to monitor service level agreements is to rely on the perceptions of the end-users, according to David Wheeldon of the consultancy Ultracomp. "Unless anyone complains the service is available."

Mr Wheeldon, who has written a book on service level agreements for the government IT agency, the CCTA, points out that if the service is not available for a crucial five minutes it is of no consolation when the supplier claims 99 per cent up time as specified in the service level agreement.

Suppliers, too, are realising that statistics to prove they provided the agreed level of service may not be enough. "This says nothing about how customers feel about you," says Bridget Blow, managing director of ITNet. She is planning to introduce monthly user satisfaction surveys to prove ITNet is not just delivering the specified computer power.

Many companies assume that having outsourced IT they can forget about it. But they still need a team in-house to sit between the end-users and the supplier and manage the service level agreement. They also need to keep a team of IT strategists to monitor the supplier's capabilities and assess new technology.

"The service provider needs help from the customer," says Norman Stone, a partner at Andersen Consulting which is now introducing reverse service level agreements, which specify targets the users must meet to support the supplier.

"The whole market is in a learning process about service agreements," says Will Ryan, customer services manager at Cray, a company which specialises in managing communications networks.

"But in the end, the service level agreement has got to be about partnership, not something that is used to beat up the supplier."

---

This page is pure information.
It can give you a competitive edge. Fortunately, it's been organised by an AT&T WorldMark Server.

If you can retrieve and organise data quicker and more efficiently than your competitors, then you will have the edge.

You can now make sense of all this information.

AT&T can offer you truly modular massively parallel processing capability. This means you can easily achieve multi-dimensional growth across hardware, database and operating systems. So now you can have unprecedented business investment protection for your company's processing systems. The *AT&T WorldMark Server lowers the entry point for a decision support system* that was probably only previously available to the holders of national defence budgets. We suggest you call 0171 725 8989 and take advantage. Now.

AT&T

---

■ **Back office systems** need point-of-sale links, says **Geof Wheelwright**

# Front-back functions problem is key issue

### It should come as no surprise that Microsoft is busy promoting its own solutions

One key issue for many retailers currently undertaking important investments in personal computer-based information technology is how their "front office" Pos (point-of-sale) terminals and personal computers can be tied in with the "back office" systems that traditionally handle all of the heavy-duty accounting, invoicing, collection and data management functions – and which require use of data collected with the front office systems.

It should come as no surprise that Microsoft is busy promoting its own solutions for bringing front office and back office functions together for retailers. At last May's Retail Solutions 95 show, it exhibited more than 20 different retail solutions using its Microsoft Windows NT-based Microsoft BackOffice technology. And Microsoft was not shy about declaring a major big commitment to go after the retail front and back office markets.

"Retailers are under growing pressure to deliver the best possible service to their customers, while remaining cost-effective," says Gordon Smillie, Microsoft UK business manager for retail. "They are increasingly recognising the important role which IT can play in helping them achieve these objectives. We are looking to make Microsoft Windows NT the platform of choice for the retail industry, integrating front-end point-of-sale and interactive multimedia applications with back office systems."

One of Microsoft's star customer accounts in its bid to win retail back office business is the US-based Best Buy retail group. With more than $3bn in annual revenue for the financial year 1994 – and 26,000 employees – Best Buy claims to be the fastest-growing retailer of name-brand consumer electronics, personal computers, office products, important appliances and entertainment software in the US.

The company operates more than 200 stores in the central US and is aggressively moving both east and west with a planned opening of 40 to 50 new stores a year. Best Buy was founded in 1966 as an audio specialty store using a commissioned sales model but in 1989 the company decided that the commissioned sales model – which it termed Concept I – was not what customers wanted. It converted the sales compensation model from commissioned to salaried (something it labelled as Concept II).

Under this scheme, the customer was free to choose with virtually no pressure to buy, but was still subject to the level of training and individual biases of the salesman. Finally, in 1993, Best Buy began opening their 48,000 sq ft - 55,000 sq ft Concept III stores based on the premise that "quick access to accurate and unbiased information such as the manufacturer's specifications is what the customer wants".

Under Concepts I & II, the customer could ask the salesman to print out the specifications for any product in the store, a process that required time and the interaction of a salesman. Best Buy says it wanted the customer to be able to directly access a wide range of information quickly, including not only text-based specifications and product descriptions but also full-colour graphics and video clips showing product features and operation. The company also wanted to ensure that the information presented at all of their stores was accurate, consistent and current.

To accomplish this, Best Buy settled on a centrally-managed, distributed multimedia system as the solution.

The vehicle for implementing it was Microsoft Visual Basic and Visual C++ – which were employed to create a centrally-managed, distributed multimedia kiosk system based on Microsoft's BackOffice technology. Best Buy says this means that the company's stores now provide "orders of magnitude more information directly to their customers than was possible before – and that information is more accurate, current and unbiased, and it can be reviewed, revised and distributed virtually at will."

هكذا من الأصل

هكذا من الأجل

**Introduction:** individual users may get their own systems, says **Claire Gooding**

# Desktop GIS is on the way already

### The GIS market is worth $760m, according to US researcher Dataquest. Last year it grew 15%

You're off on holiday to Greece, a part you've never visited before. So you download a map of the local area onto your PC or PDA over the Internet – not cheap, but worth it – then home in on your destination. You can see how close your accommodation is to the sea; check the transit from the airport; get a list of local restaurants; find the nearest car-hire company to your hotel; and figure out the distance to those ancient Greek ruins you want to visit.

Dream on. Geographical Information Systems have not yet arrived as a tool for the masses, but they are well on the road. Indeed most elements of this fantasy scenario are already in place.

GIS is moving away from purpose-built giant systems and onto the desktop, even for personal use.

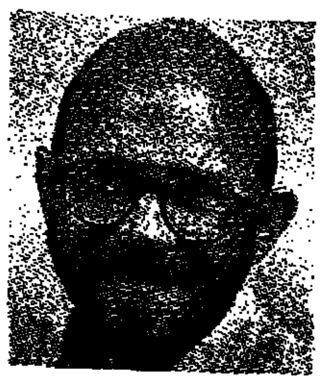
For example, the region of Galicia in northern Spain is providing essential information to new investors through a system called RegionLink, funded by the European Union. In Scotland, another RegionLink project at Grampian's Regional Economic Development Unit is building a total picture of the area, also EU-funded.

Available over the Internet World Wide Web, it will serve tourists, potential investors, retailers and any SME (Small to Medium Enterprises) needing information about the area That is, non-expert, occasional users, usually wanting to buy or sell something. Marketing is the most obvious application of the new-age GIS.

The GIS market is worth $760m, according to US researcher Dataquest, and grew 15 per cent last year.

"The GIS world is opening up so fast that the possibilities are limitless," says Richard Green, corporate development director of GIS specialist Smallworld, based in Cambridge. "A huge barrier in the past has been getting data into the systems: it takes a lot of money and effort."

Smallworld is one of the companies involved in RegionLink for SMEs, the others being database supplier Sybase, and systems integrator Systems Synthesis of Bristol. Smallworld is one of Britain's GIS pioneers, whose rapidly-expanding customer base


Bradford: 'Big suppliers are trying to move their systems onto PCS'

Richard Green: 'The number of possible users is enormous'

includes utilities, telecoms companies, and retailers in the UK and across the world, including Mitsubishi in Japan. It has ported its product to run under Windows NT, and developed a desktop version for novice and occasional users, Smallworld View.

"Now the data is there and scanned in, and traditional maps have been digitised: that's a big shift from five years ago," says Mr Green.

"They now represent the most up-to-date information available. The push is now to get that data out round the enterprise, onto every desktop that will find it useful. The number of possible users is enormous, from meter-readers and repair agents on site to the customer service clerk and the strategic planners and marketers."

The thorniest part of building a GIS has always been in creating locational data, teasing the meaning out of existing, sometimes overlapping or contradictory, information.

In the UK, most of the necessary groundwork is now complete, such as accurate, digitised, edge-matched maps from Ordnance Survey.

Companies such as QAS, (Quickaddress Systems, a value-added reseller of the Royal Mail's Postcode Address File, PAF), have made it commonplace to locate an address by postcode.

QAS now sells "bundled" information with its software, a Find facility which links postcode to a household income dataset, and a Nearest facility, which the Whitbread Group is already using to advise voucher-holders of the nearest restaurant and outlets.

Based on such foundations, "packaged" desktop GIS tools avoid the construction stage by including ready-made sets of data – maps, demographics, census data – and making them extremely easy to use. This is a breakthrough which brings a previously expensive, esoteric application within the reach of small companies and even individuals.

The public domain OLE (Object Linking and Embedding) standards, developed by Intergraph for Microsoft, make mapping a truly desktop application, supporting text and image integration possible within the same document.

One of the new breed of desktop GISs is Maps&Data, from ADDE, the French arm of US GIS company Urban Sciences International. At £495, (sold in the UK by Marketwide of Birmingham), it brings a Windows 3.1 entry-level competitor to MapInfo and other higher-level tools, and is targeted specifically at marketing applications.

Like other desktop tools, Maps&Data cross-references "domestic" databases, (almost any PC standard), by use of the ubiquitous postcode.

The power of GIS systems is analytical: facts suddenly come into focus when represented geographically. Whereas mapping systems simply replicate what appears on a paper map, GIS provides a window on other data that is not itself locational, because it can be used to describe relationships, for example, catchment areas for supermarkets with "drive-times" and incomes.

Consulting work in the siting of retail services has prompted information services company CACI to develop and launch its own low-end GIS, called InSite running on IBM-compatible PCs, and poised for release under Windows 95.

"GISs are changing from large to small users, because of the power of PCs and the operating systems, such as Windows NT," says Greg Bradford, managing director of CACI. "The big suppliers – Smallworld, Laserscan, ESRI, are all trying to move their systems onto PCS.

"We've developed our own proprietary InSite system from scratch because, after a long internal debate, we realised that existing GIS systems were too land-based to suit the types of applications our clients needed." At £20,000, or £30,000 customised, InSite brings costs down to a tenth of traditional GIS large-project costs.

"InSite is one of the first 32-bit desktop GIS tools, for both Windows 95 and NT. It's exciting technologically, because it's fast, easy to use, and because we've built it to run under Windows 95, and it is integrated with standard desktop office tools, with cut-and-paste facilities for report writing."

Marketing gets its own stream at the AGI's (Association for Geographic Information) annual conference on November 21-23 in Birmingham, bringing together companies such as Sun Alliance, Mercury and BT to address the use of GIS. The conference is chaired by Geoff Kendall, managing director of Dataview Solutions, who sums up the changes in GIS.

"We're taking the technology out of the rooms with the guys in white coats and getting it onto the desktops of business analysts, then spreading it through organisations at all levels," he says.

"The traditional GIS is too complex for the average PC user to use, so we take the "engine" and give it a different front end, for different purposes. Our view is that the geographical angle is so pervasive that it makes sense to look at data this way. What matters at desktop level is not millimetre accuracy; it's all relationships and trends.

"The real benefit from it is that the information gets unleashed on the business people and they suddenly start to understand their business as never before."

AGI Conference: Tel. Anna Hern +44(0) 1932 252549

FT IT

## Geographical Information Systems

FT writers examine the latest developments in GIS. Among the topics covered:

**Tools and infrastructure:** Global Positioning Systems may offer a way forward in the GIS sector
**Sound foundations:** The Ordnance Survey and French Cadastre set high standards in map-making Page 12
**Property surveys:** Insurers can now assess the risk of subsidence more accurately
**Case studies:** Siemens Nixdorf helps the Bavarians map their forests; Database Marketing Software and Services Page 13

**CASE STUDY** Marks and Spencer uses technology that puts it firmly on the map

# Top of the shopping lists

Electronic Point of Sale equipment at Selfridges. GIS can be used to make sense of the torrents of data

The fact that 75 per cent of all information in circulation has location as a common ingredient ought to place Geographic Information Systems (GIS) at the top of every retailer's shopping list.

Making sense of torrents of Electronic Point of Sale (Epos) data, identifying sites for new stores, defining fuel-efficient delivery routes, profiling customers and analysing consumer trends is, in theory, all in a day's work for software that can help answer the question "Where?"

Such possibilities have not escaped Makro, the Manchester-based wholesale cash-and-carry chain which last year acquired the InSite Maps package from CACI. This now captures Epos data in real-time from each of Makro's 25 outlets to gauge customer response to promotional offers.

As part of the analysis, the system employs drivetime software to establish how far customers travel, and from where, to make their purchases, all of which sharpens the marketing focus.

The potential of GIS has not been overlooked by UK retailer Marks and Spencer – arguably the first retail giant to adopt the technology five years ago – which uses it in support of board-level deliberations that, last year, led to a spend of £350m on new stores. Commercial judgment remains an inescapable element in deciding just where to add to the company's global complement of 638 outlets, but maps and reports generated by the system are now routinely used in the decision-making process.

While the output necessarily appears as a series of options, rather than absolute answers, the ability of GIS to generate alternative "What if?" scenarios can prove highly revealing. Such facilities were recently employed to assess the potential for business in Japan. With the results confirming other indicators, Marks and Spencer cancelled plans to enter this market.

As Mike Fishwick, controller of the company's London-based location research department, notes, the payback on GIS may be notoriously difficult to measure, yet its strategic value is undeniable. "Who can say how much money was saved for investment elsewhere by not going into Japan?" he ventures. Now into its third generation of GIS from Cambridge-based Laser-Scan, Marks and Spencer utilises GIS in an analytical rather than presentational capacity.

Mr Fishwick elaborates: "We act as 'honest brokers' to the business and let the numbers tell their own story. A map backdrop certainly helps us present complex scenarios in an easily-digestable form, but it is the underlying algorithms that are critical and these have to be evolved over time." He adds that the ambitious nature of the largely bespoke development has made vendor support critical.

Although GIS was initially employed in a stand-alone capacity, Marks and Spencer realised that its strategic value is as a "window" into information held elsewhere. Links have been put in place over the past year that enable its GIS to draw on 5 gigabytes of sales, marketing, demographic and other corporate data. A dozen different spatial modelling techniques are then applied to evaluate site location possibilities in the UK, France, Germany, Spain and further afield.

Despite the experience of Marks and Spencer, Makro, J. Sainsbury, Asda, Halfords, Woolworth and others with a GIS capability, the technology remains something of an unknown quantity in the retail sector as a whole.

A paucity of off-the-shelf applications software and retail datasets, high start-up costs, and a shortage of staff with GIS skills have all proved inhibiting factors in the past. But this situation is fast changing, with geodemographic and retail marketing data now readily available from CACI, CCN Marketing, Chas. E Goad and other specialist suppliers.

Functional, if limited, versions of desktop mapping packages from MapInfo and Strategic Mapping are being embedded in such ubiquitous products as Microsoft Office/Excel and Lotus 1-2-3. The belief is that this approach will introduce "geomarketing" to a wider non-specialist audience and, in turn, boost sales of mainstream GIS and mapping software.

Peter Ireland

Kielder Water, Northumbria: Europe's largest man-made lake. Water utilities use IT to help solve distribution problems Picture: North News and Pictures

**CASE STUDY** North East Water puts 8,000km of piping on the map

# Managing water distribution

The logistical problems of delivering water to consumers were brought into focus this summer in the UK. With one of the hottest and driest summers on record, water supply problems attracted an unusual level of attention.

Unsurprisingly, water utilities see information technology (IT) as an important asset to help them solve supply and distribution problems. Geographical information systems (GIS) are a key area.

North East Water is Britain's largest water-only utility in terms of the geographical area it serves. It supplies water to 1.3m consumers from the Scottish border down to Teeside – an area of 5,000 sq km, ranging from the concentrated industrial and residential regions around Newcastle-upon-Tyne to the remote rural areas of Northumberland.

In 1991, North East Water decided to install a comprehensive GIS which would map its 8,000km piping network. It enlisted the help of systems integrator Sema Group to install the GIS and tie into its other IT systems.

The utility chose a GIS package called APIC – an advanced software system which runs under the Unix operating system using modern client-server and object-oriented design techniques.

"Before the GIS we relied on a combination of hard copy maps and the knowledge and experience in employees' heads – which was obviously unsatisfactory," explains Mr John Selby, North East Water's IT manager. He adds that the biggest problem encountered when installing the GIS was to collate and enter the mapping data:

"It took us two years to get all the data in – mainly because of the vast geographical area we cover." Now fully installed and working, the GIS provides invaluable assistance in operational management of the water distribution network.

North East Water's staff can access data on the pipes and the customers rapidly. If there are problems, the GIS's graphical display features allow staff to see exactly where the problems are located.

"We can, for example, look at what we call cut-off management and see immediately which customers will be affected. If we need to shut down part of the network because of an emergency or for maintenance, we can link to the customer system and let our customers know exactly what is going on," says Mr Selby.

The GIS also links to the utility's capital asset management system – helping to identify hot spots and problem areas in the network. Expenditure and resources can then be concentrated on these areas.

The GIS also helps North East Water to provide up-to-date information to other utilities such as gas and electricity. The Department of Trade and Industry (DTI) has an initiative called the Street Works Register aimed at getting the utilities to work together on maintenance:

"We meet with the gas and electricity utilities regularly to solve these problems and the GIS gives us the data we need," says Mr Selby. More importantly, North East Water plans to extend the system to help it solve the controversial problem of leakage from the piping network. Furthermore, North East Water's GIS system is rated by the Water Research Council as the most advanced integrated GIS of its kind. This should bring long-term benefits to the company and to its customers.

Philip Manchester

Microsoft Bonus Pack.
Half price tutorial CD.
Free training day.

A free offer from Elonex that opens doors to Windows 95.

Designed for Microsoft® Windows®95

intel inside pentium

Choose Elonex for your new Microsoft® Windows® 95 system and take advantage of our exclusive offer. This includes a free day's Windows 95 training, a discount voucher for a tutorial CD, and the Microsoft Bonus Pack (Microsoft Plus! trial subscription to Microsoft Advantage and discounts for Microsoft Home CDs).

Elonex will help you make the most of Windows 95 from the word go - it's faster, easier and more compatible than anything that's come before - and Elonex's training offer lets you see the benefits instantly.

Whichever way you look at it, you can't afford to delay a moment longer. So ring your nearest Elonex sales office right now for more information about personal computer systems with Windows 95 and services from Elonex. Or if you prefer call into any of our showrooms.

London 0181-452 4444
Bradford 01274-307226
Cumbernauld 01236-452052

ELONEX

**PC-575R/1 £1075** Intel 75Mhz Pentium Processor, 256KB cache, 64-bit graphics accelerator with 1MB DRAM. 8MB RAM (max 64MB). 420MB hard disk, Microsoft Mouse. UK keyboard, 14" Non-Interlaced SVGA colour monitor. 'R' case; up to 2 full height PCI slots (1 threequarter length, 1 half length). Microsoft Windows 95 pre-loaded.

**PC-5100M/1 £1270** Intel 100Mhz Pentium Processor, 256KB cache, 64-bit graphics accelerator with 1MB DRAM. 8MB RAM (max 128MB). 420MB hard disk, Microsoft Mouse. UK keyboard, 14" Non-Interlaced SVGA colour monitor. Slimline 'M' case; 2 PCI-Bus slots plus 2 ISA slots (max 3), 3 drive bays. Microsoft Windows 95 pre-loaded.

**PC-5133B/1 £1890** Intel 133Mhz Pentium Processor, 256KB cache, 64-bit graphics accelerator with 1MB DRAM, 8MB RAM (max 128MB). 420MB hard disk, Microsoft Mouse. UK keyboard, 14" Non-Interlaced SVGA colour monitor. IDE Quad-speed CD-ROM drive. Built in magneto-optical disk drive. 'B' case; 3 PCI-Bus slots plus 3 ISA slots (max 5), 5 drive bays. Microsoft Windows 95 pre-loaded.

Elonex PCs are pre-loaded with Windows 95 as standard (MS-DOS 6.22 and Windows for Workgroups 3.11 is also available on request). Whichever operating environment is pre-loaded it is supplied complete with program manuals and diskettes. All PCs come with 12 months extendible on-site maintenance (UK mainland only). All Elonex users have access to unlimited technical hotline support. Please call for details. Pre-loaded Microsoft programs may not qualify for the free of charge upgrades advertised by Microsoft. All prices are exclusive of VAT. Prices and configurations are subject to change without prior notice. Microsoft and MS-DOS are registered trademarks and Windows 95, Windows, Microsoft Plus! Microsoft Advantage and Microsoft Home are trademarks of Microsoft Corporation. Intel, Intel Inside logo and Pentium are registered trademarks of Intel Corporation. Elonex Plc. 2 Apsley Way, London NW2 7LF. Tel: 0181-452 4444. Fax: 0181-452 6422.

■ **Tools and infrastructure:** Global Positioning Systems might offer a way forward, writes **Claire Gooding**

# Mapmakers get eye in sky

### The industry depends on overlays of knowledge on a common foundation of accurate maps

The Great Wall of China can be seen from outer space, we are told. The good news – or bad news, depending on your view of privacy – is that your car can be seen as well. Accuracy down to one metre is now possible by means of Global Positioning Systems (GPS).

Already widely used in navigation systems – such as those supplied to BMW and other car manufacturers by Trimble Navigation of Sunnyvale, California. GPS might offer a way forward to the GIS world which is otherwise lost without a map.

Anyone who has seen a GIS at work will appreciate the idea of overlays. Users build up information on a map, taking different views (which may include above and below ground) and pulling together data from different sources to show relationships and their significance.

This principle applies to the GIS industry itself: it depends on overlays of knowledge on a common foundation of accurate maps.

Among the areas already well-mapped are the UK, France, Germany (and parts of their former empires), Scandinavia and Ireland, which has a sophisticated GIS in Dublin. In the Far East, Singapore and Malaysia, a lot of work has started from scratch in digital mapping. India, too, is beginning to catch up, but African projects are patchy, driven largely by foreign aid.

The drivers *elsewhere* are military intelligence (US and worldwide), taxation (Italy, Norway and others), navigation, and policing (such as of agricultural subsidies in the *European Union). Norwegian* software house Sysdeco, which started in navigation systems, now competes with the GIS giants such as ESRI, Intergraph and Smallworld, and with revenues of $100m is rated in the top dozen European software houses.

"The supply of digital data is crucial to the use and the growth of the GIS segment," says *Johs Jamne, chief* executive of the Sysdeco group.

"The big opportunity is actually outside utilities and in real commerce, but the lack of digitised information is a bottle*neck for the wider use of GIS."*

Many countries are surveying from scratch because paper maps are too old or not accurate enough. It is an enormous job, complicated by maps of *different scales and projections.*

Completion will depend on commercial incentives and the extent to which the infrastructures – roads, railways, air services – *need geographic information.*

Two European consortia, EGT and Tele Atlas are racing to provide the definitive European Digital Road Map *(EDRM), down to street level.* The effort to manage logistics on a pan-European basis has increased the need for cross-border datasets. Blaupunkt is already providing Bosch's *TravelPilot navigation system* in its Berlin car radios, using CD-Roms as the source of updateable geographic datasets for navigation throughout and beyond Germany.

National surveys departments have to make the transition from being printing houses for maps to being software and data suppliers. "I foresee the day when it might be possible to call from the modem via your PC to get a certain area of the country downloaded and charged," *adds Mr Jamne.*

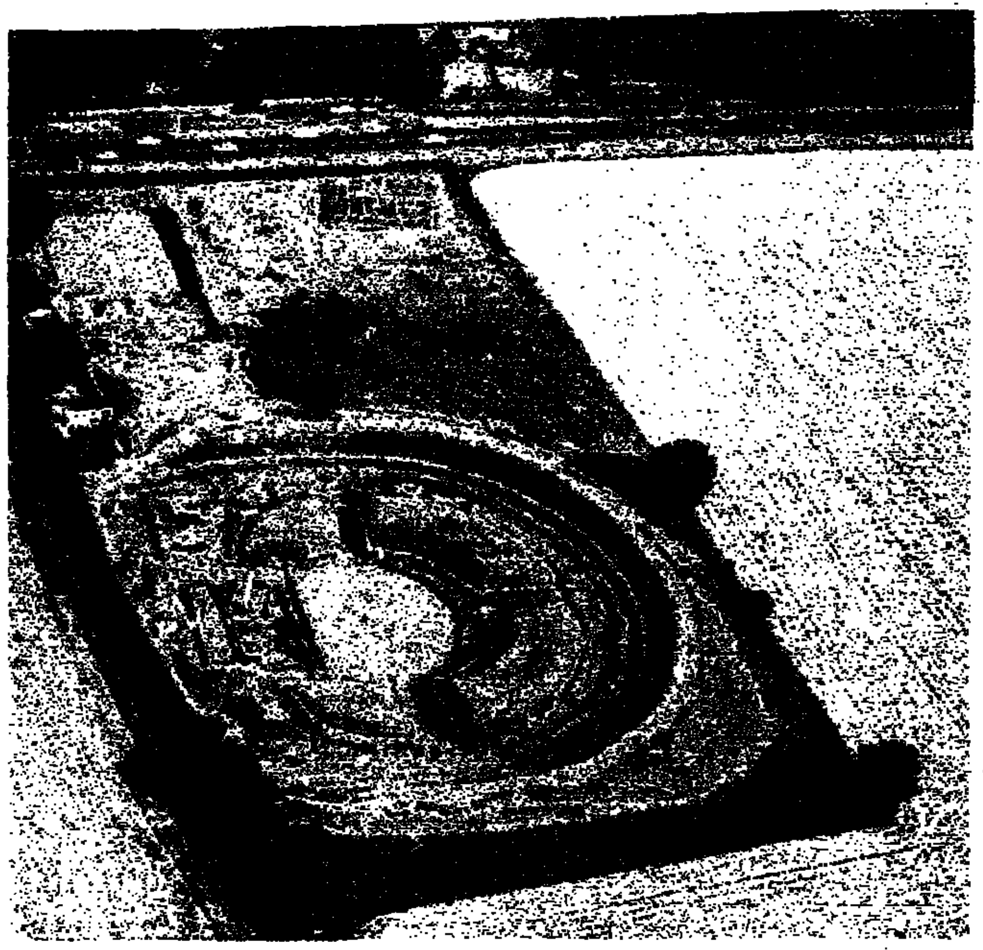
> National surveys departments have to make the transition

Pricing is a big issue. Computer services company CACI licenses GIS data on roads from the AA in Britain and from the US government in the US, whose "Tiger File" reproduced every tiny road in the land in 1990.

*Johs Jamne: 'The lack of digitised information is a bottleneck'*

"There's a maintenance issue there," says Greg Bradford, managing director at CACI UK. *"The UK attitude is to make* money but in the US it's seen as public domain and the cost is minimal."

Three Valleys Water uses a computerised GIS system from Sysdecpo to speed up repairs to damaged pipes



A Roman amphitheatre at St Albans where council planners use GIS to plot and protect archaeological sites

## Empires laid some useful foundations

It is unfashionable to praise empires, particularly those of Napoleon and the British. But they did lay some useful foundations for GIS users with Ordnance Survey and the French Cadastre for legal property mapping, writes Claire Gooding.

The problem is that maps are not available worldwide, and where they exist, someone has to be responsible for maintaining them, and charging for them.

The availability of such data may speed the scaling *down of GIS from being a* "heavyweight" tool for utilities, local authorities and other services.

"The whole industry is divided into three layers," explains Geoff Kendall, chairman of the AGI conference in November, which is for the first time divided into sectors to cater for the different GIS markets.

Mr Kendall is also managing director of Dataview Solutions, a UK and Australian company whose customised GIS solutions use products from MapInfo software, the leading desktop GIS tool.

"Software comes first, second is maps and information, which includes internal and bought-in external data, and the third we call integration and application development," he says. "This involves tying everything into existing systems and developing a new front end, such as Dataview is doing for Mercury, Daewoo, NatWest and Rimmel."

Applications, too, are *layered:*

- Traditional large-scale GIS with local authorities and utilities:
- A middle layer aimed at business and enterprise-wide solutions;
- Thirdly, "electronic maps" which provide a map of the world, or basic route-mapping (such as Autoroute) and some basic demographic information.

*Geoff Kendall, Dataview Solutions chief (right), with MapInfo president Brian Owen: 'The whole industry is divided into three layers'*

As business analysis becomes a more important element of GIS, the edges between these layers are blurring: Autoroute is adapting to business analysis, MapInfo is adding functionality, and giants such as ArcInfo's Arcview are bringing large-scale tools down to the desktop.

"The AGI is adapting to the very different needs of this emerging market, namely analysing business data, simplicity of use, and accessing business data from a wide variety of sources."

ual Sales
FemmeNaturelle
SAVA
HOUSE
SAVA Market-Share (in units)
eltweiter rktanteil

**Is your business waiting for the fast, economical, quality colour printer? Our business is making it for you.**

You don't need us to tell you about the advantages of colour printing in today's competitive market: Colour means the power to persuade - the power to inspire - the power to set your company apart.

But until now, the right combination of speed, image quality and simplicity of use just wasn't available at the right price.

Introducing the revolutionary new Tektronix Phaser 340: a desktop colour printer that brings crisp, vibrant colour to your documents and overheads at a quality and a price nothing on the market can touch.

The Phaser 340 is built for the office network. With its powerful RISC processor, superfast memory management and remarkable solid ink technology, you get 4 razor-sharp colour pages per minute on most papers, plus economical, clean and environment-friendly refilling that's as simple as a stapler.

It's the revolution your business has been waiting for. And best of all, it's from Tektronix: a Fortune 500 leader, that's been making highly acclaimed colour printers for 13 years - using the broadest range of colour technologies.

For further information on the Phaser 340, our FREE 20 page colour guide and some astonishing print samples, please return the coupon today, or call us on 01628 403601.

☑ Yes. Please send me more details of the Phaser 340, my FREE Colour Printer Guide and sample output.

Name: ______ 1603
Company: ______
Address. ______

Tektronix UK, Snowdon Drive, Winter Hill, Milton Keynes, Bucks MK6 1HQ. Fax: 01628 403617

Tektronix Real colour printers

**Every Unisys UNIX server gives you something you've always wanted: system control.**

SYSTEMS MANAGEMENT

Everybody wants a little control in their lives. That's why Unisys U6000/500 UNIX servers offer superior systems management tools.

Our powerful group of Single Point™ tools lets you run everything from one place. Other Unisys tools let you integrate our servers into your mixed-vendor environment. And all our tools are backed with our unmatched expertise in supporting solutions from the desktop to the data centre.

Exceptional systems management. It's another reason to choose Unisys UNIX servers. If you want to learn more, call Desirée Land on 01908 212333 or fax on 01908 212176.

UNISYS

intel inside pentium PROCESSOR

THE INFORMATION MANAGEMENT COMPANY

هكذا من الأصل

هكذا من الأخطل

**CASE STUDY** Development of Madrid University's historical atlas

# Easier access to history

Geographical Information Systems usually serve the demands of the present and of the future – for example, helping city planners improve the infrastructure of a big conurbation in an industrialised nation or agricultural engineers explore irrigation possibilities in a developing country.

But Madrid University is using modern technology for quite another purpose. Using hardware and software from Siemens Nixdorf, it is compiling an *Atlas Historico de Madrid*.

In 1986, the University's Documentation Centre began planning an exacting project: an atlas documenting the history of a city which was once capital of an empire which encircled the globe.

The project was led by Professor Virgilio Pinto and Professor Santas Madrazo who not only succeeded in assembling a team to deal with the documentation, the study and the implementation phases of the project, but were also able to garner support from the public and private bodies.

Siemens Nixdorf, the German computer systems group, already had experience of developing Geographical Information Systems for a number of important cities, and was one of the companies to sign a contract of co-operation with the university.

Virgilio Pinto, professor of history and director of the Documentation Centre, explains the approach taken to the problem: "We broke the project down into several parts, each part representing a self-contained sub-project. These were an historical atlas, an historical database and finally the production computer-supported encyclopedia."

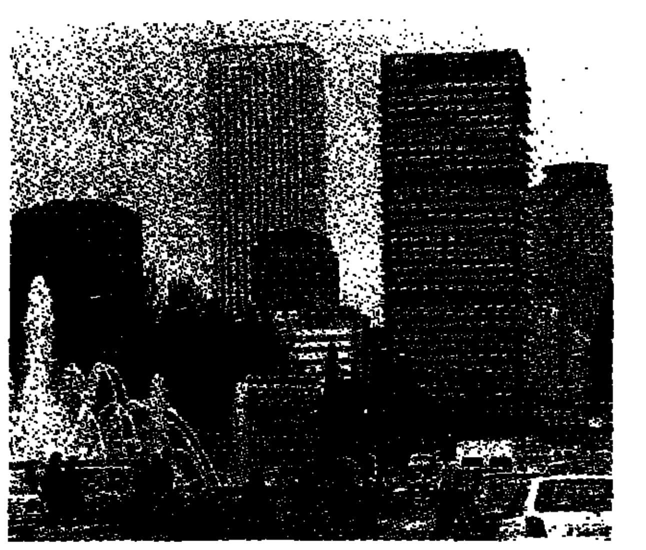
The historical atlas of Madrid covers the period from the ninth to the 19th centuries. Its purpose is to document and to analyse the city's development during the millennium. Work on the atlas began in May 1991 and is due to be completed by the end of this year.

Professor Pinto says: "The historical atlas will illustrate the geography of Madrid and its surrounding area, and the growth and development of the city centre over time as well as its layout. Then, there are other aspects such as population, economic activity, with production and consumption, and social, political and administrative developments. Ultimately, the atlas will include all extant historical monuments, indicate archaeological sites, and also mark the site of cultural monuments which have since vanished."

The project brings together large quantities of highly diverse data which, when processed, will provide a thematically-organised collection of maps. The result will be published in a 450-page volume documenting the history of Madrid.

An historical database of Madrid and its surrounding region will result from the second sub-project. When complete, the database will contain information about the period from the 12th to the 20th centuries. The text section will contain documents and other historical sources as well as bibliographical references, while the graphics section will consist of reproductions of old and newly-developed maps as well as historical engravings.

The third sub-project will be an encyclopedia of Madrid from the 12th to the 20th centuries, which is to be produced using multimedia technology. The main content will be studies of the social aspects of the city's developments. For example, the encyclopedia will cover changes to the infrastructure and to the local economy but it will also cover other aspects such as intellectual and cultural life, religion, festivals, art and architecture.



Madrid: GIS is being used to compile the atlas *Picture: Ashley Ashwood*

For all three parts, the historical atlas, the database and the multimedia encyclopedia, the academics have been faced with the difficult task of trying to blend different types of data from widely varying sources into a meaningful whole.

The methodology used combines analysis techniques developed for historical research over the past 40 years, together with the latest methods of spatial analysis which are typical for Geographical Information Systems and requires a relatively large team.

About 40 people are working on the project. Besides Prof Pinto and Prof Madrazo and a third academic member of staff, two project managers, a technician, and *three co-ordinators for the* areas of cartography, society and picture archiving form the nucleus of the team.

Four Documentation Centre staff are concerned chiefly with the data-processing systems while another 25 colleges – including archaeologists, architects, geographers and historians – collect data and prepare texts for entry.

Siemens Nixdorf has provided the data processing system for the Documentation Centre including a powerful RW-320xs workstation and two networked PCD 4Gsx computers.

The graphic data is stored and managed by the Sicad-Digsy program, while Informix On-line with an SQL module for retrieving and updating data, handles the database. An additional 4GL module is used for developing applications. Eventually the data will be stored on CD-Rom.

Once complete, researchers from various academic disciplines will be able to access a database structured according to scholarly criteria. The atlas, the database and the encyclopedia *will also aid local* and regional authorities in city planning or historical preservation, for example.

The historical atlas will also provide a new way of exploring the history of the city and the region which surrounds it. Amateur historians, pupils, teachers, and others interested in the history and development of Madrid will be able to produce a vivid picture for themselves of times gone by.

Carlos Ochoa, director of the Centre for Geo-systems at Siemens Nixdorf in Spain, believes the project could be copied elsewhere. "The experience we have gained working with the team from the university is transferable to other European cities," he says. "Data processing may not rewrite history but, as Madrid illustrates, it can make history more quickly, more easily, and more attractively accessible."

Paul Taylor

---

**CASE STUDY** GIS-based data mining and prospecting

# The heart of the issue

A Geographical Information System or GIS can flash up an address in an instant, but for financial institutions information is of little value in itself. The sheer volume of data acquired by the financial sector places the emphasis firmly on interpretation of information.

In the UK insurance sector some 64 per cent of companies are currently changing their data management systems. This figure comes from research sponsored by IBM, which has cut to the heart of this issue with a new unit, operating from its Hursley Park research laboratory. Database Marketing Software and Services (DMSS) assimilates and interprets data from insurers. The raw product can be a database containing details of a million customers.

> *DMSS is now* engaged in a relatively new branch of computer science called Data Mining

What DMSS is engaged in is a relatively new branch of computer science called Data Mining or Database Prospecting. IBM will sell software *that contains* sophisticated algorithms written to trawl through bewildering fields of data or hire out the program and associated expertise.

A straightforward DMSS project might cost a client £50,000. In its first 12 months of business, DMSS has conducted $5m worth of business in the US and Europe.

Human skills lie at the heart of this operation says Sam Manning, an IBM marketing systems expert. "We decided to keep DMSS in the UK because it has acquired incredibly productive dedicated specialists." IBM is very keen to retain such skills, adds Mr Manning.

Malcolm Leith is a consultant specialising in financial systems and GIS at management consultants KPMG. *He sees the world of* data mining as complementary to GIS technology.

"If you look at all the data in an organisation like a bank or a building society it's usually *name or* address-related. So if you're assessing a car insurance risk you can place that against theft figures, locational data such as property values and then put in socio-economic data."

This latter type of information tends to be bought in from marketing database specialists who make their living by gleaning facts about consumers' lives *from sales statistics*.

Malcolm Leith: 'GIS makes the data you've got come alive'

Mr Leith sees the matching of GIS data with database prospecting as a useful way of *illustrating risk factors*. "You can illustrate the level of exposure ranged in terms of age and income against postcode areas."

But the financial sector is not concerned exclusively with isolating bad risks and finding reasons to turn down applications. "There is a positive side to this. If your institution has a product and wants to target a specific economic group it's possible *to pinpoint the concentrations* of those people. With access to figures on what these people spend every year on clothing or electronic goods, the database investigation should produce a list of *addresses*."

The idea of a GIS is inevitably focused on the visual image of a map. But in Mr Leith's experience financial institutions hold address-related data that is presented in text form. The GIS is the component that "makes the data you've got come alive." Mr Leith believes the UK financial sector now has a grand opportunity to exploit the GIS-data mining potential.

The recent merger of the Halifax and Leeds Building Societies created the third-largest retail bank in Britain. Other societies are rumoured to be on the verge of mergers. Integrating separate branch structures is a vital issue.

This trend makes these technologies "a red-hot system right now for building societies," says Mr Leith.

He is discreet about KPMG's client list in this sector, but notes: "I imagine they are employing GIS techniques to predict the outcome of branch closures."

Combining customer data with a computer picture of the branch distribution is not just about deciding which offices to close. "You can look at the combinations. Some building societies will discover it's time to open a *branch in a better location*."

That location already exists, but it's locked away in spools of computer data. Digging into that information and laying it over proven GIS technology offers a way ahead *in a competitive sector*.

Michael Dempsey

---

**CASE STUDY** Siemens Nixdorf helps the Bavarians map their forests

# A path through the woods

Every 10 years, Bavarian forestry officials make an "inventory" of the state-owned forests. This calls for the surveying of 850,000ha of forest, or 10 per cent of the total area of Bavaria, the largest of the German Länder.

The task involves a lot more than simply counting trees. A wealth of information is required to make efficient and ecologically sound use of wood as a raw material.

To be able to control what is actually happening at a local level, officials at the local forestry offices, at the regional and central headquarters, as well as in the Bavarian Ministry of Food, Agriculture and Forestry, need to know what is going on in the forestry districts.

Which areas are being fenced, *felled or planted*? What measures have been taken in the past and how successful were they?

There are several series of special-purpose forest maps that reveal the current state of the forests of Bavaria. Operations maps, for example, provide information about the type of forestry use to which the land is put; forest function maps show the infrastructural functions *of* the district; site maps provide information on soil conditions and possible options of tree types. Forest overview maps document property ownership details.

The responsibility in Bavaria for producing and updating these maps on a regular basis falls to the six regional forestry offices, and their Munich headquarters.

Mr Gerhard Schreyer, head of the Forest Management, Rationalisation and Data Processing department in Bavaria, *says: "We have the* task of co-ordinating and harmonising the various forestry functions.

"We strive to use wood as intensively as possible as a raw material and yet preserve and *protect the forest in its* substance. Accurate maps and suitable options for evaluating the information they contain are absolutely essential for this task."

> The system enables maps to be produced and updated far more quickly than before

In order to simplify the work *of forestry officials* and to facilitate the evaluation of existing information, the standard maps are now being converted into digital data format with the aid of the Sicad-Forst Geographical Information System.

This system enables maps to be produced and updated far more quickly than before.

Previously, every re-evaluation required a new map to be *drawn by the* cartographers. Using the GIS software, this is no longer the case.

Questions such as: "What proportion of the forest is growing in locations particularly exposed to the wind?" or "What area is available in a particular *region for the production of* oak veneers?" could only be answered quickly and reliably after studying the cross-section of different maps.

But by employing the Sicad-Forst "overlay" technique, the different types of map can be overlaid and studied simultaneously.

"With the Sicad system we hope to operate considerably more efficiently and quickly in future and – despite the greater demands – without expanding the existing workforce," says Mr Schreyer.

"The manual generation of maps was simply too rigid a process. Additional information often could only be extracted from lists with difficulty, and then it was not possible to integrate this into maps.

"Sicad enables the existing geographical information to be used much more intensively," says Mr Schreyer. "And we are now equipped for types of evaluation that we have not yet even thought of."

The path to the digital forest maps was by no means a straightforward one. "Before we could present Forst-GIS to the forestry authorities as a part of our tender, we *first had to* assemble the appropriate tools from the existing Sicad toolbox," says Wolfgang Hesse, project manager at Siemens Nixdorf.

He was involved in the development of Sicad-Forst from the start.

"Each bidder had to process *maps for particular forestry* offices.

"This was to ensure that staff at the main forestry offices – mainly qualified cartographers – would be able to use the new system without excessive amounts of data processing training.

"When the decision was finally made in favour of Siemens Nixdorf, it was a matter of expanding by the deadline set for the end of 1992, the data model and the functionality of the application.

"The basis for this was the development work already carried out for the four standard types of map."

*Since the end of 1993, with* the test phase at the Cartographic Institute completed, first editions of all four types of map – forestry operation, forest function, site and overview – have been available in digital form.

The data model is complete, and the system is currently being introduced in the six main forestry offices and in the Bavarian State Institute for Woodland and *Forestry*.

Forestry officials are already busy planning and implementing the next phases, which will include, for example, integration of spot-check maps into the system.

Paul Taylor

---

■ **Property and subsidence surveys:** insurers can now assess risks more accurately, says **Nuala Moran**

# When the earth moves

A geographical information system developed at Cranfield University is now available commercially

The record-breaking summer of 1995 may now be little more than a warm memory but there is a legacy to come for householders and insurance companies in the shape of subsidence.

A geographical information system developed at Cranfield University and now available commercially will not make the cracks go away but it does open the way for making precise calculations of risk.

One insurance company, Independent Insurance of Sale, Cheshire, plans to use the system to undercut rivals on the Isle of Wight which use broader-based assessments that rate parts of the island as being at high risk of subsidence when there are in fact pockets where the risk is extremely low.

Subsidence is caused when clay soils lose moisture and shrink in the summer. This puts stress on buildings and causes cracking. Recent hot summers have made subsidence a preoccupation of insurers. Dry weather in 1989 and 1990 pushed claims up sevenfold: in 1991 insurers paid out £540m to repair damage caused by subsidence. Even claims for the wetter 1991 reached £260m.

The rise in claims led insurance companies to introduce excesses of as much as £2,000 and to bring in a rating system, based on post codes, for buildings at risk of subsidence.

The issue for householders is that many are being rated for subsidence risk when their homes are on sandy soils.

For example, the Milton Keynes and the Guildford postal areas are assessed as being on clay soils, but some parts are sandy and there is no risk of subsidence, according to Dr Bob Jones at the Soil Survey and Land Research Centre at Cranfield where Insure (Information System for Underground Risk Evaluation) was developed.

Insure is based on the most detailed survey of soils in England and Wales – data for Scotland is about to be added – classifying every hectare into one of 720 soil types. Not all clay soils shrink, and those that do only shrink when they suffer a net moisture loss because vegetation draws away more water than is gained from rainfall.

Cracks in buildings can also be due to heave – caused when moisture levels rise and clay soils expand. Because the soil survey was originally intended to provide a guide to farmers as to what plants would thrive where, it also contains detailed information on average soil moisture deficits in different parts of the country.

The degree of detail allows insurers to assess risk at individual post-code level: groups of about 15 houses.

This makes rating for subsidence more equitable and could be used to competitive advantage to correctly rate bits of the market, "leaving companies that don't react with a load of bad risk," said Chris Venvell, founder director of Ventech, the company which markets Insure.

Mr Venvell is in talks with surveyors' professional bodies aimed at establishing a service whereby every property survey would include an Insure assessment of subsidence risk. He believes this could have the same sort of effect on property prices as the discovery that certain cars (the so-called "Hot Hatch" types) are more likely to be stolen than other models. This led to far higher insurance charges for these vehicles and has undermined their second-hand value.

Mr Venvell branched out to set up Ventech after Cranfield University approached Digital, his employer at the time and on whose computers the system was developed, to see if it wanted to sell Insure.

Digital was in the process of making its insurance sales team redundant and Mr Venvell decided to take up the offer alone.

Insure is developed on Apic Systems' GIS which means it can also be used to assess other perils. For example, flood claims or crime statistics can be factored in to give a very precise assessment of overall risk for an individual property.

"The Insure system can be developed to provide a balanced assessment of all risks, allowing companies to price their policies accordingly," said Mr Venvell.

Unisys UNIX servers.
Reliability is built into them, so you get the most out of them.

When you trust your critical tasks to an application server, backup and recovery are always on your mind. So give some thought to Unisys UNIX servers. They have powerful resiliency features built in – for dependability you'd expect only from much larger systems. Our servers and databases offer features like disk mirroring, two-phase commit and automatic recovery.

RESILIENCY

And our Ready Reserve Software™ helps ensure high availability and data integrity. We also feature hot replacement hard drives and high-performance RAID storage that can back up multiple servers.

intel inside pentium PROCESSOR

Remarkable resiliency. Another reason to choose Unisys UNIX servers. To learn more, call Desirée Land on 01908 212333 or fax 01908 212176.

UNISYS

THE INFORMATION MANAGEMENT COMPANY

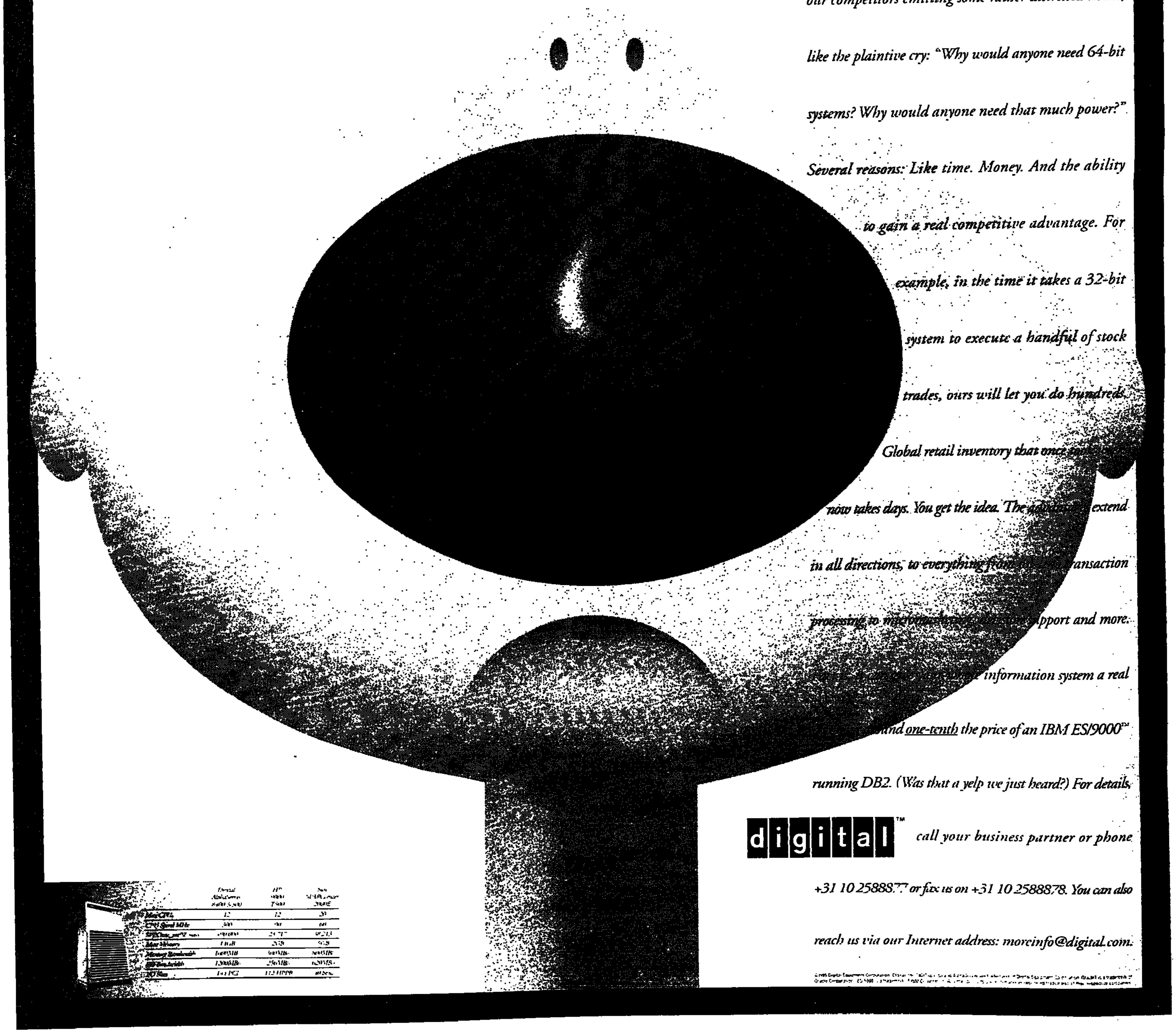
© 1995 Unisys Corp. UNIX is a registered trademark in the U.S. and other countries, licensed exclusively through X/Open Company Ltd.

The Intel Inside Logo and Pentium are registered trademarks of Intel Corporation.

# HMM. IS THAT SCREAMING SOUND COMING FROM OUR NEW 64-BIT DATABASE SERVER?

# OR FROM OUR 32-BIT COMPETITORS?

*It's probably a bit of both. Running the new 64-bit pure Oracle7,™ our new AlphaServer™ 8200 and 8400 systems give you performance gains that sound unreal: up to one hundred times faster than conventional 32-bit enterprise systems. With multiple 64-bit processors howling along at 300 MHz and Very Large Memory capability, they support the world's largest in-memory relational database, and let your applications directly address up to 14GB of data in main memory. All of which could account for our competitors emitting some rather distressed noises, like the plaintive cry: "Why would anyone need 64-bit systems? Why would anyone need that much power?" Several reasons: Like time. Money. And the ability to gain a real competitive advantage. For example, in the time it takes a 32-bit system to execute a handful of stock trades, ours will let you do hundreds. Global retail inventory that once [illegible] now takes days. You get the idea. The [illegible] extend in all directions, to everything from [illegible] ansaction processing to [illegible] pport and more. [illegible] information system a real [illegible] and one-tenth the price of an IBM ES/9000™ running DB2. (Was that a yelp we just heard?) For details, call your business partner or phone +31 10 2588877 or fax us on +31 10 2588878. You can also reach us via our Internet address: moreinfo@digital.com.*



| | Digital AlphaServer 8400 5/300 | HP 9000 T500 | Sun SPARCcenter 2000E |
|---|---|---|---|
| Max CPUs | 12 | 12 | 20 |
| CPU Speed MHz | 300 | 90 | 60 |
| SPECrate_int92 (max) | [illegible] | [illegible] | [illegible] |
| Max Memory | 14GB | [illegible] | [illegible] |
| Memory Bandwidth | 1600MB/s | 500MB/s | 500MB/s |
| I/O Bandwidth | 1200MB/s | 256MB/s | [illegible] |
| I/O Bus | 144 PCI | 112 HPPB | [illegible] |

digital™

© 1995 Digital Equipment Corporation. [illegible]

---

FINANCIAL TI

■ VR compani

Pione
divers

The VR industr
seems likely to
follow in the
footsteps of the
computer indus
as a whole

real
real

Computer We
World is the
planning your

TEXAS INSTRUMENTS

To register for th
0181 54

هكذا من الأصل

هكذا من الأطفال

**VR companies** by Gary Mead

# Pioneers take diverse courses

## The VR industry seems likely to follow in the footsteps of the computer industry as a whole

The three quoted UK companies involved in virtual reality – Division, Superscape VR and Virtuality – have each taken rather different approaches to the business, so far following a horses-for-courses strategy rather than trying to cover all the bases.

Division, based in Bristol and with strong R&D links to the University of North Carolina and having recently formed a strategic alliance with Hewlett-Packard, specialises in design automation, computer-based training and has started to nibble at entertainment, in conjunction with Virtual World Entertainment. Division says its ambition is to "establish a software standard in VR, so that users and third party developers can start to interchange software." Division is placed at the upper end of the market, at least in terms of price; its high-performance systems range from between £50,000 to more than £1m.

Superscape VR, based in Hook, Hampshire, is a predominantly non-immersive VR software specialist providing tools compatible with IBM-compatible PCs based on Intel 486 or Pentium chips. Its primary product is Superscape VRT, enabling existing data to be converted into a format suitable for the creation of an equivalent VR world. It aims to provide low-cost access into VR – the basic desktop software costs less than £3,500 – for anyone who needs to create a model of a three-dimensional world.

Virtuality, based in Leicester, has focused on building the hardware and software for immersive VR entertainment systems, to be found in arcades. Virtuality's systems are probably beyond the reach of the average 12-year-old's pocket money; the current price for such an arcade-based Virtuality system is $33,000.

But the company also plans to bring immersive VR games into the home. In March this year it signed a deal with Atari, the US video games company, to develop software for Atari's new 64-bit Jaguar games console. It is thought that by this time next year such immersive VR games will already be on the market, priced very competitively to tackle the flat-screen games consoles already well established.

Virtuality has also signalled its interest in expanding beyond the games market; with IBM it has developed Project Elysium, a range of fully-immersive systems based on IBM's PCs, and aimed at a broad range of professional users as well as developers of games software. The Elysium IVR 3 still does not come cheap, at $50,000 for starters.

Given this is still pioneer territory, what's the future for these, and the plethora of unquoted companies in the market? Pierre duPont, Division's marketing director, has this to say: "The VR industry will follow in the footsteps of the computer industry as a whole. Computers used to be big expensive things. Then thresholds such as price and quality were passed and everyone began using them. Someday, VR will be something every PC will come with."

Given the wide range of corporate and individual clients each of these three companies have on their books, and the various analysts' forecasts about future growth, duPont's view is probably spot on.

BT engineers are developing a desktop VR system that provides a tool for observing and interacting with a 3D model of the network

**Into the future:** by Professor Peter Cochrane

# N-dimensional world offers greater clarity

## 'This may be the tool we have been looking for – instant education and understanding - just in time'

For many engineers, designers, scientists and medics, VR has already become a mainstream technology. Much of it is a far cry from the popular hype and vision of head-mounted displays and gloves seen in the games environment. It is far more pragmatic!

Screen-based VR now dominates by virtue of the fact that it is readily available, easy to use and realises great benefit. Today, engineering design is probably the dominant application area with medicine a very close second.

Designing all but the most simple artefacts on paper has had its day. Moving to the N-dimensional world of VR adds greater clarity and understanding – and, more importantly, great savings are to be had. The need to drastically shorten time to market, and get products right first time, has brought this technology to the fore.

Producing anything from a mobile phone through to a car or an airline terminal can see savings of more than 30 per cent in time and money through the use of VR.

Similar savings can also be realised in process design where logistics and components are critical factors in production flow and control. Visualising the final design in full (virtual) operation is a vital step in getting it right, but without the expense of an actual build.

All the best organisations are deep into this area as a matter of course. It is no longer a laboratory toy; it is an essential tool.

Medical applications are developing rapidly with everything from body fly-throughs to operation simulations and animations. But in this area, along with many others, it is the mixing of the real and virtual worlds where the greatest advantage probably lies.

Combining Telepresence and VR allows surgeons the benefit of a real world view augmented by computer-generated simulations. In recent trials, surgeons have been able to "stand one inside the other" at a distance to experience new surgical techniques for the first time, or receive reassurance during a first-time solo operation.

This technology is equally applicable to the repair of a PC, jet engine or heating plant. It offers a new and alternative approach to education – a metaphoric guide on the inside.

Managing a modern company can be like flying a Boeing 747 airliner with 100-fold the instrumentation that is actually necessary.

It is not uncommon to be data-rich and information-poor. You can see the temperature of the toilet seats, but your altitude and heading is any body's guess! Here, VR has a very big, and largely unrecognised, part to play. It is ideally suited to the representation of highly complex and data-rich situations.

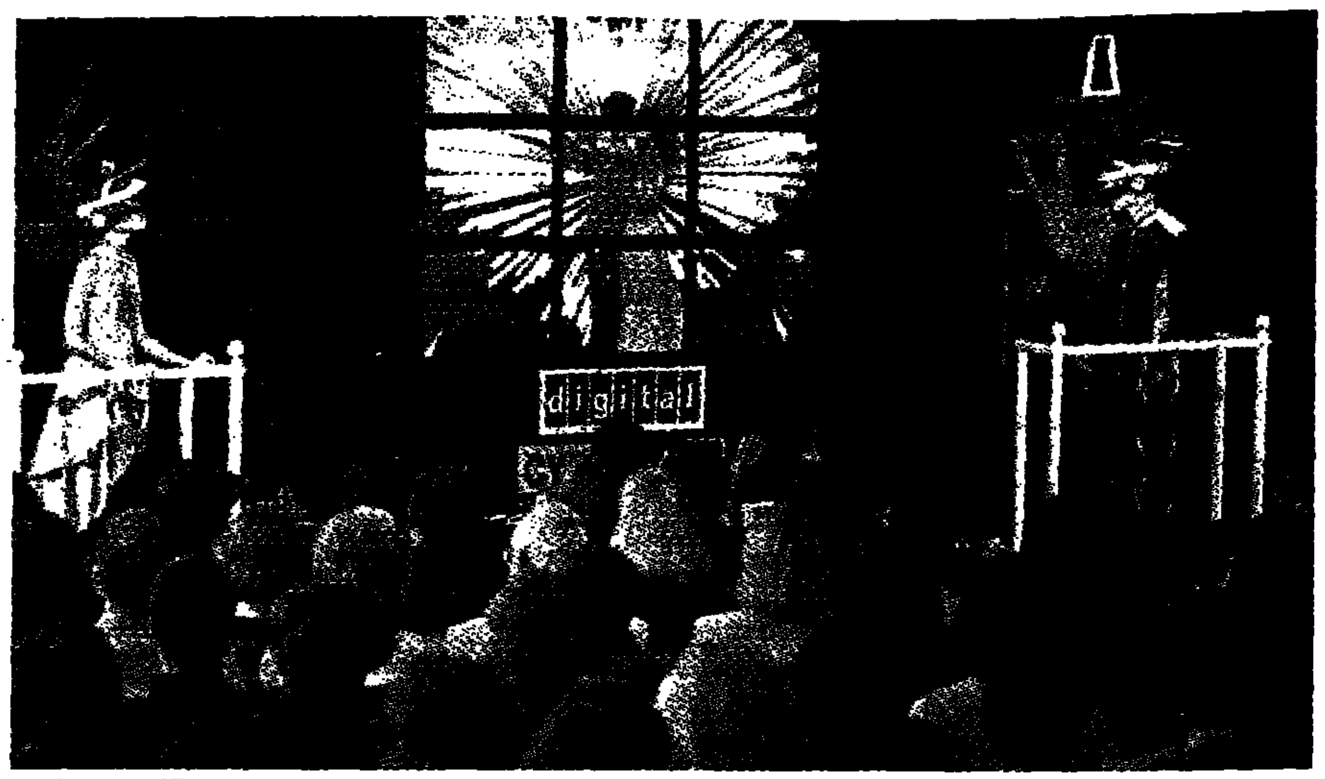
Beneath this very thin veneer of civilisation we are natural hunters. One of our primary skills is visual correlation. We did not evolve the skills for gazing at spread sheets. But put data into an N-dimensional VR field and the results are stunning.

Experiments have seen board members digest 2Gbyte of information in 20 seconds – and understand a complex situation for the first time. This is more than the entire contents of the Encyclopaedia Britannica. The trick: animated graphics – not spread sheets and static 2D graphs, but moving, interactive 3D colour. VR also offers significant potential for the teaching of science, mathematics and many other topics. It is principally a medium for direct experience and soon we will have the ability to step inside the atom or the molecule, fly a proton and experience fission, rather than just gaze at a set of complex equations.

For the first time we will see and feel the binding energies in the alignment process of a long-chain molecule while simultaneously viewing the equations and associated graphical information. For many well understood systems and situations we can already view and handle mathematical functions and models in a new way. They no longer have to be frozen in time and space by the limitation of the paper page, but can be alive with N-dimensional interactivity.

It is interesting to reflect that only 50 years ago, classes at schools and universities were commonly augmented by practical demonstrations on a laboratory bench that may still be in the front row today. Effectively, that was Virtual Reality 50 years ago: you just sat and watched someone else do it. Today, much more can be done on the screen by everyone. It may be the tool we have been looking for – instant education and understanding – just in time. The question is – will anyone be in the real classroom – or will it all go virtual?

*The author works for BT Laboratories*



New frontiers for VR technology: at a 'cyberspace' wedding in San Francisco, a bride and groom exchange their vows in virtual reality headsets. But technology may be the biggest stumbling block for VR. It is apparently difficult, for example, to design a VR body suit with tactile feedback Picture AP

**Animation** Sun Microsystems experts are exploring the potential of Hot Java technology

# Spicing up the Internet

The Internet could soon be a place to have a "virtual reality" experience. Following the recent unveiling of its ground-breaking new "Hot Java" technology for spicing up the Internet experience with better sound, graphics and video support, researchers at California-based Sun Microsystems are currently working on ways to make virtual reality technology on the World Wide Web a reality.

Sun calls Hot Java an animated, interactive web browser and already claims great interest from Internet-related companies on using it to provide new services.

The Internet Shopping Network (ISN), with 15,000 subscribers, for example, wants to use Hot Java to hold live, interactive auctions over the Internet. The company says it would mean that when it had an odd lot or small quantities of hot commodities such as software or office furniture, ISN subscribers could bid against each other.

With Hot Java, ISN has been able to create an application that handles 250 bidders simultaneously, with an animated, on-screen auctioneer who moves and talks. But it won't stop there. A recent tour around the Sun virtual reality lab gives you an idea of the potential applications for a follow-on to applications developed with Hot Java technology. Your first stop is what appears to be a small, darkened room that is not particularly unique in any respect – except for the eight-foot floor-to-ceiling video walls and speaker systems that surround you.

When you enter this virtual reality chamber, you are asked to don a headset containing a pair of 3-D glasses. These glasses convert on-screen images (which show a slight "colour shift" when you look at them without the glasses – just like old 3D movies) into a three-dimensional environment while a "3D mouse" built into the headgear actually tracks your head movements and causes the images in the room to change when you move your head.

The company is planning to condense this experience into something that you could "feel" just by wearing the special headset and glasses and logging onto virtual reality "pages" using next-generation World Wide Web browser technology.

Sun researchers suggest that this could entirely change people's views about what they can do on-line and that it could evolve to the point where users who wear the right headgear will be able to wander around these interactive VR Web pages to really get a feel for being somewhere.

That "somewhere" could be anywhere from a virtual shopping mall to a virtual movie theatre, clubhouse or virtual office.

The Sun research group even posits the idea of virtual global meetings – where you can actually see images of other people in a virtual conference room. It is like a VR extension of existing Internet "chat rooms" – except that you would actually see real, 3D images of the people in the room and hear their voices, rather than just reading their names and typed comments.

There are, however, dangers that lurk on the road to 3D nirvana. One potential trouble spot is the social impact this may have – particularly on young children who might use the system.

Just as society wrings its collective hands over the way that we allow photo-realistic violence to be shown on TV and in movies – and allow ourselves to become completely numb to the sight of others dying – there are said to be real dangers in allowing children to play violent VR games.

If VR games become so realistic that young children find it hard to distinguish between digital fantasy and reality, who is to supply them with the "real world" moral code that prevents them from attacking people when they don't have their VR equipment on?

Philosophical issues aside, the technology may end up being the biggest stumbling block to VR. It is apparently difficult, for example, to design a VR body suit that responds with the right amount of heat or cold, physical impact and movement to give users a completely realistic VR experience without potentially hurting them.

The researchers say that tactile feedback is a very tough problem – and that anything powerful enough to emulate the impact of even a mild collision is severe enough to break a bone.

Geof Wheelwright

Real Products
Real answers

COMPUTER WEEKLY's
client server WORLD
28-30 November 1995
Olympia 2, London

Computer Weekly's Client-Server World is the definitive event for planning your future IT strategy.

Vendor Sponsors
SYSTEM ARCHITECT
TEXAS INSTRUMENTS
JBA
Conference Partner

Focused exhibition
Free seminars from the major suppliers
Daily debates of the current issues
Independent product comparisons
Client-Server Conference
Risk Management Conference
Complimentary Report & Product Directory

To register for this unique event call
0181 541 4865

DON'T BUY HARDWARE
...till you're sure it's what you need.

The Micro•Rent **Hire-to-Acquire** scheme lets you evaluate computers and peripherals before you commit to capital expenditure.

And the costs are remarkably reasonable because you get big rebates on the rental element when you progress from *'hire'* to *'acquire'*.

Get the details call
0171-700 4848

BusinessCentre
COMPAQ
Micro•Rent plc
MR

Who did Microsoft trust with their new baby?

Like all new parents, Microsoft wouldn't leave just anybody in charge of their baby.

Which explains why they chose Unisys.

Our references are second to none, as we have enabled major organisations around the world to exploit Microsoft® Windows NT's™ potential in helping them re-engineer their business to better serve their customers.

We are a European authorised Microsoft Solution Provider Partner and one of the first of Microsoft's Authorised Support Centres.

With over 7000 information service professionals, we are the leading information management company and are able to provide a full range of services, including installation, integration and support of your Windows NT™ environment.

This means that if you want to maximise the potential of Windows NT™ and ensure your organisation is set up for a brilliant future you couldn't be in safer hands. And because Unisys has a proven commitment to long-term partnerships you can be sure you won't be left holding the baby. Call Desirée Land on 01908 212333 or fax 01908 212176 for more information.

intel inside
Microsoft SOLUTION PROVIDER Partner
UNISYS
THE INFORMATION MANAGEMENT COMPANY

WINDOWS NT SERVER

# SOFTWARE MARKET

1 Automated Data Capture
2 Busines Software
3 Business Solutions
4 Business Solutions
5 Client Server Accounting
6 Client Server Accounting & Distribution Software
7 Conference
8 Enterprise Wide Software
9 Financial & Accounting
10 IBM Connectivity Software
11 Information Security
12 ISDN Voice & Data Communication
13 Manufacturing & Supply Chain Solutions
14 Network Management Security
15 Payroll Software
16 Remote Access ISDN Solutions
17 Remote Access Security
18 Sales & Marketing
19 Sales & Marketing
20 Sales & *Marketing*
21 Sales & Marketing
22 System Management
23 Worldwide Manufacturing Solutions

## 1 CtC Ltd.

Portland House, London Road, Bagshot,
Surrey GU19 5PG
Tel: 01276 453105 Fax: 01276 453108

**Company Description**
Automated data capture from hand written forms via ICR/OCR/OMR character recognition. Document processing, imaging, storage and retrieval. High traffic ISDN computer linked fax systems.

**Hardware Compatibility**
PC/Win/Win 95/NT.

**Geographical Coverage**
UK & Europe.

**Applications**
Teleform ICR.

## 2 Dun & Bradstreet Software

PO Box 273, Kings House,
Bond Street, Bristol BS99 7AL
**Tel:** 0117 927 6866 **Fax:** 0117 925 7131

**Company Description**
Dun & Bradstreet Software is a Subsidiary of the Dun & Bradstreet Corporation and develops, markets and supports a range of business software products and services. These include market leading, decision support tools, financial, human resource, manufacturing and distribution applications. With 10,000 customers in 60 countries and over 2,000 employees, Dun & Bradstreet Software is one of the world's Top Ten software vendors.

**Hardware**
UNIX: HP/DG/IBM/SUN/DEC/ Windows NT

**Geographical Coverage**
Operations in 41 countries with installation in over 60.

**Applications**
Smartstream range of integrated client/server

## 3 Movex (UK) Limited

Savile House, Savile Road,
Elland, Yorks HX5 0NU
**Tel:** 01422 377611 **Fax:** 01422 310109

**Company Description**
"Integration, flexibility, ongoing and proven development path, real commitment to high quality international service and support" are just some of the reasons why over 1100 major companies have chosen MOVEX software - often to support BPR and Rightsizing. Over 80% of MOVEX's sales are to pan-European companies, producing a turnover of £74 million per annum.

**Hardware**
IBM AS/400. GUI includes Windows and OS/2.
*Price on application, includes user input to development.*

**Geographical Coverage**
45 Offices worldwide.
Concurrent translations into 17 languages

**Applications**
Truly integrated manufacturing, financial and distribution software. Strategy includes OOT and Client/Server.

## 4 MR-Data Management Group Plc

47 Bastwick Street,
London EC1V 3PS
**Tel:** 0171 250 3377 **Fax:** 0171 250 1873

**Company Description**
MR-Data Management Group provides comprehensive facilities management and out-sourcing for data management requirements.

Services include: image and data capture, electronic printing, secure off-site data storage and market leading Memex software.

**Hardware**
All major systems

**Geographical Coverage**
UK, USA, Middle East

**Applications**
All image and computer data.

## 5 SQL Financials

Royal Albert House, Sheet Street,
Windsor, Berkshire SL4 1BE
**Tel:** 01753 833950 **Fax:** 01753 833748
Contact: Paul Sanday

**Company Description**
SQL Financials has developed a New Breed Financial Applications Solution which meets the needs of high volume processing environments that also require the flexibility of Native Windows Client/Server Applications.

**Hardware**
The SQL Financial Applications operate in a Distributed Client Server Environment and are independent of both Hardware and Operating System.

**Applications**
The Client/Server Applications include General Ledger, Accounts Receivable, Accounts Payable, Purchasing, Fixed *Assets, Document Manager, Task Manager and WorkBench.*

**Coverage**
SQL Financials currently has 12 worldwide offices with North American Operations based in Atlanta and European Operations in Windsor, UK.

SQL Financials

## 6 Lawson Software

Capital Place, 120 Bath Road
Hayes, Middlesex UB3 5AN
**Tel:** 0181 754 8470 **Fax:** 0181 754 7766

**Company Description**
Lawson Software offers robust, client/server applications with proven business benefits for companies worldwide. Lawson has 20 years of experience in developing business applications, with high-end, corporate functionality. Combining that experience, with a unique underlying development technology strategy, Lawson offers future proof solutions - offering both high-end functionality and openness and integration to the newest technologies.

**Hardware**
AS/400, RS6000, HP9000, DEC Alpha, Sun, Sequent, U6000

**Applications**
Accounting, Distribution Management, Materials Management, Lawson Tools and Open Enterprise Desktop.

**Coverage**
FT 2000

LAWSON

## 7 Client-Server Conference

28-30 NOVEMBER 1995
OLYMPIA 2, LONDON
Tel: 0181 541 5040 Fax: 0181 974 5188

**CLIENT-SERVER COMPUTING CONFERENCE 28 & 29 NOVEMBER**
A two day conference addressing the benefits and pitfalls of embracing client-server computing through its *management* and technical streams. The conference provides a unique forum for senior IT and Business Managers to learn about the financial, strategic and technical issues behind migrating to a client-server architecture.

**RISK MANAGEMENT CONFERENCE 30 NOVEMBER**
Experts in various risk disciplines explain how market, financial, commercial and technological sources of risk can be proactively managed in a unified manner, at this one day conference.
Both conferences run alongside Computer Weekly's Client Server World event.
**For a full conference brochure and booking details call Jon Howell on 0181 541 5040.**

## 8 SAP (UK) Limited

No. 7 New Square, Bedfont Lakes
Feltham, Middlesex TW14 8MA
Tel: 0181 818 2970 Fax: 0181 818 2990

**Company Description**

SAP®

***Integrated Software. Worldwide.*℠**

**Hardware**
UNIX, Windows NT

**Geographical Coverage**
Worldwide: 28 subsidiaries: 6400 employees

**Applications**
Industry specific & generic applications covering the industrial, financial and public sectors.

## 9 PeopleSoft UK Ltd

The Atrium Court, Apex Plaza,
Reading, Berkshire RG1 1AX
**Tel:** 01734 254254 **Fax:** 01734 511832

**Company Description**
PeopleSoft develops and markets PeopleSoft Financials, PeopleSoft HRMS, PeopleSoft Distribution and People Tools, a powerful application development and customisation environment. PeopleSoft combines graphical user interface, relational database technology, and client/server architecture to deliver superior product functionality and technologically innovative applications, with the best customer service in the business.

**Hardware**
*IBM, Digital, Hewlett Packard,Data General, SUN,* NCR.

**Coverage**
Fortune 500 and Fortune 1000

**Applications**
PeopleSoft Financials, PeopleSoft HRMS - PeopleSoft Distribution.

PEOPLE Soft

To sell to 3/4 of Japan's office automation buyers, you . . .

JUST SAY 'NIKKEI'

To advertise in the world's most powerful business daily, phone 44(0) 171 379 4994 *NIKKEI*

## 10 Netsoft International Limited

Coach House Cloisters,
Hitchin Street, Baldock SG7 6AE
Tel: 01462 490094 Fax: 01462 490919

**Company Description**
Netsoft designs, develops and distributes a range of software products that provide easy, reliable and cost-effective client/server software solutions, linking PCs and PC networks to IBM mainframe and AS/400 *computer systems*. Netsoft are available for Windows, Windows *for* Workgroups, Windows NT, Windows 95 and IBM's OS/2 and Warp operating systems.

**Geographical Coverage**
International.

**Applications**
IBM mainframe and AS/400 connectivity.

## 11 Zergo Limited

The Square, Basing View,
Basingstoke, Hampshire RG21 4EG
Tel: 01442 342 600 or 01256 818 800
Fax: 01256 812 901 E-Mail zergo@zergo.com

**Company Description**
Zergo is Europe's leading specialist provider of Information Security solutions. We provide a range of security solutions, including hardware and software, customised systems, information security consultancy and education. Zergo is a key supplier of LAN & WAN security to finance, defence, government, and pharmaceuticals.

**Hardware**
Security Servers, Network Encrypts, Systems Integration.

***Geographical Coverage***
UK, Wester Europe.

**Applications**
ZSA, SAM, Secure E-Mail

**Cost**
On application.

ZERGO

## 12 SCii

45 The Boardwalk, Port Solent,
Portsmouth, Hants PO6 4TP, UK
Tel: 44 (0)1705 215216 Fax: 44 (0)1705 215101

**Company Description**
SCii is the World leader in ISDN Technology. We can provide solutions from file transfer to Lan access to video conferencing from 64k to 2MB/s over ISDN.

**Hardware Compatibility**
PCs - ISA PCI PCMCIA, Power Mac, NUBUS PC

**Geographical Coverage**
Anywhere with ISDN.

**Applications**
See WWW SCii co. UK

**Cost**
From £449.

# I.T. IN BANKING AND FINANCE 1995/96

## PUT YOURSELF IN A WINNING POSITION

Access the latest thinking with FT Financial Publishing's well researched Management Reports. They contain the latest research on products, markets and future trends. These Reports represent a valuable investment for those seeking to maintain competitiveness through technological innovation.

- I.T. in the Financial Services Industry
- Banking Technology as a Competitive Weapon
- Financial Technology
- Multimedia — Implications for Financial Services
- Payment Cards in Europe
- Prepayment Cards
- Risk Management in Financial Institutions in Europe
- European Treasury Management

For further information on any of these titles phone or fax Rachel Mason now:

**Fax: +44 (0) 171 896 2274**
**Phone: +44 (0) 171 896 2290**

FT

FINANCIAL TIMES
*Financial Publishing*
*Providing essential information and objective analysis for the global financial industry*

## 13 CSI

Canal Place,
Leeds LS12 2DU
Tel: (0345) 010105 Fax: (01132) 342211

**Company Description**
CSI are a leading IBM Business Associate specialising in applications for IBM AS/400, RS/6000 and Client/Server environments. Applications include BPCs for manufacturing and supply chain companies, CIEL for logistics companies and the award winning customer services products (CSP). For a free information pack, please call CSI Customer Service on (0345) 010105.

**Hardware/Compatibility**
IBM, AS/400, IBM RS/6000, PC & client/server platforms.

***Geographical Coverage***
Nine UK offices supporting Europe, USA, S Africa and Australia.

**Applications**
Manufacturing, supply chain & logistics.

**Cost**
POA

## 14 Axent Technologies

4a-10 West Street, Epsom
Surrey KT18 7RG
**Tel:** 01372 729655 **Fax:** 01372 749965

**Company Description**
AXENT Technologies is exclusively devoted to providing client/server information security solutions for multi-platform environments with its **OmniGuard** suie of products. Axent provides its clients with everything from industry leading consultancy through to world-class security software and support.

The company founded in 1994, is privately held and headquartered in the USA with offices worldwide. AXENT is a wholly owned division of Raxco Inc. and serves a global customer base of over 5000 blue chip clients.

The **OmniGuard** suite is specifically designed for distributed computing environments and collectively *manages, secures and protects enterprise-wide systems and information.*

**Hardware**
The OmniGuard suites of products are designed for multi-platform environments.

**Cost**
Dependent upon platform - POA.

AXENT TECHNOLOGIES

## 15 Action File Limited

1 Canalside House, Tramway
Banbury, Oxon OX16 8TB
**Tel:** 01295 222666 **Fax:** 01295 222626

**Product Description**
The PAY*point* standard payroll system can be enhanced with elements such as Profit Related Pay, Audit Trail, Accounts Interface, T&A Import, Security, Labour Analysis, Absence and Training Records, to create a system tailored to individual needs.
IDPM approved. Key users include Levi Strauss, Perner UK, Allied Carpets Group plc.

**Hardware**
Ideal for PC and PC Networks

**Geographical Coverage**
Sales and support throughout the UK.

**Applications**
Payroll and Employee Management

**Cost**
Prices available on application

## 16 KNX Limited

Tempest Court, Broughton Hall
Skipton, North Yorkshire BD23 3AE
Tel: 01756 702500 Fax: 01756 797866

**Company Description**
Established in 1992, KNX is the market leader for PC-based ISDN solutions accounting for 44% of the UK *market* (Dataquest). Available for all major hardware/software environments, the KNX ISDN Product Portfolio, which includes the revolutionary ISDNPod Series, meets the highly specific performance and feature requirements of today's retail, finance and government markets amongst others in a cost effective manner.

**Hardware/Compatibility**
DOS, Windows 3.x, Windows 95, UNIX, Novell NetWare, Windows NT

**Georgraphical Coverage**
Worldwide

**Applications**
Remote LAN Access

**Cost**
From £995

X

## 17 Digital Pathways (UK) Ltd

5 Campbell Court, Campbell Road,
Bramley Tadley, Hampshire RG26 5EG
Tel: 01256 882191 Fax: 01256 882008

**Company Description**
Defender security server authenticates local or remote users wishing to gain access to a corporate network. DSS authenticates remote users logging onto a LAN or locally onto a NOVELL file server and supports hardware and software tokens for unique user authentication.

**Hardware/Compatibility**
Available for PC and Apple Macintosh

**Geographical Coverage**
*Direct sales in UK, USA. Reseller support worldwide.*

**Applications**
User authentication to the network.

**Cost**
25-user licence
from £1,660

Digital Pathways
Practical Secure Access Solutions

## 18 Chips International Limited

11 Archway Upper Staithe Road
Stalham, Norfolk NR12 9AQ,UK.
**Tel:** 44(0)1692 580888 **Fax:** 44(0)1692

**Company Description**
PURSUIT offers modules for Prospect or Project Contact Management, Quotations, Competitors Profiles, Sample Register, Marketing Campaigns, Technical Libraries, Guarantee and Complaint Logging, Telemarketing. Our mobile and office based systems are personalised to suit your established working methods. Where required we can link to your core system for the extraction of data.

**Hardware**
400+ platforms incl PC's, Unix, Networks, AS400

**Geographical Coverage**
Worldwide

POWERED BY PROGRESS.

## 19 FaxBack Limited

Fairfield House, 24 High Street,
Great Beckham, Surrey KT23 4AG
**Tel:** 01372 450535 **Fax:** 01372 450538

**Company Description**
Automated fax response systems first developed at Intel. Callers from any touchtone phone proceed through a simple voice-prompted menu keying in numbers of documents requested plus their fax no. and the information is faxed immediately documents created from any Windows application. Can also transmit files. Call 24 hour demoline 01372 450535.

**Hardware**
Software & cards for typical 4 line £8500 requires 486PC

**Geographical Coverage**
Worldwide Blue Chip user list

**Applications**
Unlimited brochures datasheets maps forms price lists etc.

## 20 Saratoga Systems

Coworth Park House, Coworth Park
Ascot, Berkshire SL5 2EL

**Company Description**
Saratoga Systems is a leading developer and supplier of account management and sales automation software across all industries. We offer solutions specific to each organisations requirements, without time consuming programming, resulting in a very high ROI. With more than 500 customers worldwide, the package has proven itself to be a very cost effective solution.

**Hardware**
PCS 886/DOS, 386/Windows, UNIX, IGM/MVS £650 per user for 100 + users.

**Geographical Coverage**
Worldwide multilingual

**Applications**
Enterprises wide sales & Marketing management, sales force automation.

## 21 Softa & Co Ltd

11 London Road, St Albans
Herts, AL1 1LA
**Tel:** 01727 863234 **Fax:** 01727 844154

**Company Description**
As the leading sales & marketing systems consultancy, SOFTA builds flexible software solutions based on proven, best practice methodologies. Services include: sales & marketing & business strategy consultancy & systems integration project services. Our service portfolio ensures the fastest route to the delivery of identified business benefits.

**Hardware**
PC Architecture, Microsoft Windows, Windows NT, Client Server Databases.

**Coverage**
UK & Europe

**Applications**
Software components for all key sales & marketing processes.

## 22 Heroix

Yeomans Court, Ware Road,
Hertford SG13 7HJ, England
Tel: +44 (0) 1992 500006 Fax: 01992 500065

**Company Description**
Can you reduce the cost of managing your systems and provide users with better service and increased productivity levels? RoboMan can. This powerful software solution detects and automatically formulates the correct solutions to system problems. Heroix Corporation is a well established company with a proven history in system management services and solutions for VMS, UNIX-DEC, HP, IBM, SUN & Windows NT.

**Geographical Coverage**
Worldwide

**Users**
Include 16 of the Times Top 30 Companies.

HEROIX

## 23 JBA

Turnpike Gate House, Alcester Heath,
Alcester, Warwickshire B49 5JG
**Tel:** 01789 400212 **Fax:** 01789 400675

**Company Description**
The manufacturing modules of System 21 offer a complete solution for hybrid manufacturing methods. System 21 takes a new approach to manufacturing by providing users with the flexibility to choose the most appropriate method for different parts of their business. Process methods can be mixed with true repetitive schedule, discrete and batch methods as needed, helping boost efficiency and increase real productivity.

**Hardware** - Multi platform

**Geographical Coverage** - Worldwide.

**Applications**
Accounting, Customer Service, Distribution and Production with specific software for the Drinks, Apparel, Plant, Tool and Equipment hire industries.

**Cost** - Available on request.

## SOFTWARE MARKET REPLY SERVICE

Should you require further information on any or all of these advertisers, simply fill in the coupon and return it to: Box FTIT-7 Financial Times, One Southwark Bridge, London SE1 9HL

Name:……………………………………………………
Company Name:……………………………………………
Position in Company:………………………………………
Address:…………………………………………………
……………………………………………………………
Telephone Number:…………………………………………

1 Ctc Ltd ☐
2 Dun & Bradstreet Software ☐
3 Movex (UK) Limited ☐
4 MR-Data Management Group Plc ☐
5 SQL Financials ☐
6 Lawson Software ☐
7 Client-Server Conference ☐
8 SAP (UK) Limited ☐
9 PeopleSoft UK Ltd ☐
10 Netsoft International Limited ☐
11 Zergo Limited ☐
12 SCii ☐
13 CSI ☐
14 Axent Technologies ☐
15 Action File limited ☐
16 KNX Limited ☐
17 Digital Pathways (UK) Ltd ☐
18 Chips International Limited ☐
19 FaxBack Limited ☐
20 Saratoga Systems ☐
21 Softa & Co Ltd ☐
22 Heroix ☐
23 JBA ☐

For advertising details please call John Ince on 0171 976 0966

Addresses supplied by readers in response to this guide will be retained by the Financial Times, which is registered under Data Protection Act 1984.

هكذا من الأصل

هكذا من الأجل

**CASE STUDY** Ferro Engros

Sjöholm: 'The vast majority of orders have no human involvement'

# Focus is on supply chain information

Ferro Engros is a distribution and wholesale company which does not want to actually handle any goods – as long as it controls the information flow along the entire logistics chain.

The company is at the heart of a retail and distribution chain in Sweden which sells 30,000 different items in the DIY, gardening, tool and building markets from suppliers across the world.

"Storing products is no use to us: the only function we're interested in is controlling the flow of information and the flow of goods," says Ola Sjöholm, director of logistics and information systems.

Ferro Engros has just 250 staff who handle orders for 2.5m items a year and generate a turnover of SKr1.8bn.

Its secret lies in its commitment to IT. Mr Sjöholm, an IT man by background, points to his own job title here: "The fact that I am head of logistics, distribution and IT reflects the essential part that IT plays in the business.

"Logistics is the flow of goods, managed by warehouse and distribution systems; of information, through 200 terminals for our 250 staff; and of money, through invoicing and accounting systems and electronic data interchange."

This philosophy goes back almost 20 years: retailers have been ordering electronically from Ferro since the late 1970s, before the term Electronic Data Interchange (EDI) was invented. Today, 70 per cent of retailers, accounting for 90 per cent of Ferro's orders, do business in this way. This dramatically reduces the need for office staff, as Mr Sjöholm says: "The vast majority of orders have no human involvement at our end."

The electronic orders are sent to Ferro's Unisys switching system. About a quarter of them are simply recorded and then forwarded automatically to the suppliers or manufacturers.

Another 3 per cent are assembled into EDI order messages conforming to the international Edifact standards: as a pioneer in electronic trading, Ferro established its own message formats but is now gradually moving to Edifact.

EDI is also used by big suppliers to send invoices to Ferro: about half the invoices arrive in this way. They pass into the accounting system for automatic reconciliation with orders, followed by payment, again with little or no human involvement.

Mr Sjöholm says all this ensures that although retailers are indirectly dealing with large numbers of suppliers, and vice versa, they all only have to contact one company for ordering, invoicing and delivery: Ferro.

The electronic arrangements mean not only that Ferro physically handles as little paperwork as possible but also that goods are stored for the shortest time possible and delivered with minimum delay after an order is placed.

Ferro is now seeking to extend the arrangements to cut its own work and costs still further.

"At present, we send retailers thick paper catalogues, which are expensive to produce, update and distribute," Mr Sjöholm says.

"We now plan to put the catalogue on CD-Rom. It can then include images and speech to give a better idea of the product. It can be integrated with the existing ordering system, so retailers won't have to change their systems when we send them an updated catalogue. They can search on product name, group or number. They can then link to us to get stock information on-line. Meanwhile we will have lower production and distribution costs."

Whatever the future, Ferro's interest lies increasingly in the information rather than the goods being moved.

Its single-mindedness here is reflected in the fact that it has even contracted out the operation of its computer systems to Unisys.

"Our attitude is to do what we do best and let someone else do the rest," Mr Sjöholm says.

John Kavanagh

---

■ **Introduction:** supply chain management draws on a very broad range of IT skills, reports **Claire Gooding**

# IT helps deliver the goods

## Logistics has come out of the warehouse and become part of the move to Efficient Customer Response

Logistics is everybody's problem: too often nobody's baby. "People who talk about logistics are generally concerned with trucks and lorries and warehouses," says Arthur Voncheck, managing director of distribution software supplier Manugistics.

"As we see it, such specialists are desperately trying to re-position themselves in 'supply chain management,' a much broader area of expertise."

Supply chain management does indeed draw on a very broad range of skills in information technology. IT systems now contribute to the entire life-cycle of products, from managing supply through production, materials management, marketing and sales and distribution.

Storage and warehousing technology, once a science of its own, has become part of an integrated approach to logistics and distribution.

This binding of disparate skills has been driven by the consumer. The customer is king: people are not prepared to wait for a product if they can get it elsewhere by shopping around.

Supermarkets build on "customer relationships" with elaborate loyalty schemes, and try to divine customer choice through massive data warehouses.

But they still have to deliver the goods. And here lies the problem outlined by Mr Voncheck.

"Logistics is viewed as a discipline. No-one sees it as core to the business, but they all want to know how to manage the product flow to minimise cost and maximise customer service. But one of the barriers to logistics as a discipline is that it crosses the traditional power boundaries: directors of manufacture, distribution, marketing, purchasing and transport all have their own power domains and internal fiefdoms."

New technologies – some of them very adaptable – have come to the aid of the various fiefdoms. Barcode and scanning techniques (see *focus: computers in retailing* section) have made it easier to track the physical progress of goods, while the exchange of information through electronic data interchange (EDI) workflow, and document management have streamlined administration.

> To become integrated, smaller companies have to adopt IT

Large companies whose operations have always been centralised are increasingly looking at "standardisation" and "globalisation" of their software solutions.

This has become possible with the widespread availability of standard packages from suppliers and particularly client-server solutions. These enable companies to install a "global" solution – a version of the software in each national centre for integrated accounting, manufacturing and distribution packages.

Arthur Voncheck: 'Logistics crosses the traditional power boundaries'

Good communications are vital at every stage and those have to extend beyond the organisation itself to suppliers.

In fact, it has become vital to push the principles of (and responsibilities for) just-in-time manufacturing techniques further down the line.

To become integrated into the efficiency drive, smaller companies have to adopt Information Technology – something which is not always easy for the small family-run businesses that tend to characterise the haulage industry.

"Partnership" has become the key to making this complex chain efficient. Partnership can mean, as one very influential supplier puts it: "they do what we tell 'em", but there are less cynical interpretations.

In the computer industry, for example, ICL Sorbus and Bull Information have just made an agreement to share European distribution centres.

"There are still a lot of issues to be addressed on the logistical front across Europe, including the 'green' issues such as packaging and transport pollution," says Peter Woodward, commercial manager of French-owned CGI (Compagnie Generale Informatique), which has been involved in developing logistics systems for international organisations for more than 20 years.

"Since 1993, the movement of goods has become easier, but transport and road haulage businesses have been technology-shy, partly because of the investment involved.

"Affordability, timescales, and a lack of universally accepted standards, have limited developments up to now," says Mr Woodward. "The big companies such as Ford and Shell could afford to developed systems in-house. But we're now seeing a choice of integrated packaged software which combine manufacturing, accounting and distribution, such as CGI, SAP, SSA, JD Edwards, JBA, and others, whose software is available across Europe."

There is some debate in the industry about whether pan-European logistical systems are possible: CGI's experience of providing logistic solutions on a European international level suggest they are.

Mr Woodward gives as an example of centralised warehousing the golfing supplier Titleist & Footjoy:

"A customer in France can telephone the local French sales office, ordering stock in native language, but the stock actually arrives from Germany, where a single warehouse is delivering orders all over Europe. "They've reduced stockholding in each country but maintained and even increased customer service levels through the use of a package available all over Europe."

**FT IT** software at work

**Logistics and distribution**

IT suppliers usually have to pool expertise to provide such integration.

In the UK, computer services company Sema has joined forces with Data General and Computer Associates, supplier of the Open Ingres database, and specialist consultant BACG in a massive overhaul of logistic systems for Booker Belmont Wholesale, a £4bn food distribution company with 150 subsidiaries.

> An Ingres-based 'data warehouse' monitors sales and stock

The aim is to streamline operations and build new distribution lines, using Inphase's warehousing and distribution software.

An Ingres-based "data warehouse" monitors sales and stock positions. The system is integrated with financial and executive information systems which can provide instant information such as stock levels, the whereabouts of trucks, or product sales by geography.

---

**CASE STUDY** Linx system helps to keep Bass products flowing

Linx allows Bass to keep track of raw material stocks, finished products and forecasts in demand

# From barley to bar

Keeping Bass's supply chain running smoothly is no easy task – with 24,000 trade customers each typically sending in one order a week. 12,000 suppliers, an annual output of about 2.5bn pints of beer and a promised 48-hour turnaround on deliveries.

Add the industry's present problems of falling demand with competition from cross-Channel imports squeezing margins, and tight control of overheads to maintain profits is clearly vital.

For Bass, extensive change in the way the company does business is an essential part of its strategy and Mike Fisher, director for information services and change, believes that for perhaps the very first time, technology is the enabling force driving the transformation.

"Most of what we're doing is leveraged by technology," he says. Three years ago, Bass embarked on a big overhaul of its information systems, investing about £65m in solutions and support since then to streamline its entire transaction processing operations.

Once the basic systems were in place it was time to embark on strategic improvements and a key priority here was to centralise control of the logistics function.

A system that could pull together supply chain information from eight breweries, 17 distribution depots and eight telesales offices was needed, and the company investigated every suitable package on the marketplace that it could find before settling on the Linx system developed by Numetrix of Toronto.

"Linx has very good functionality," says Mr Fisher, "and does everything we wanted. But it also offers excellent graphics which make it very easy for our logistics people."

In addition, the system is highly flexible and helps manage unexpected changes in production requirements very quickly. "We also were impressed with the Numetrix team in Toronto," adds Mr Fisher. "They really understand supply chain issues."

> Installations started in summer 1994 and all sites had been equipped by July this year

First installations started in summer 1994 and all sites had been equipped by July this year. Linx essentially allows Bass to monitor its supply chain from "barley field to bar" – keeping track of raw material stocks, finished products and forecasts in demand from customers to maximise efficiency.

As a result, Bass has managed to cut stocks from an average of 10-12 weeks to only three or four weeks. And as well as the £40m cut from the costs basis since 1992, a further £12m is expected to be saved this year – on annual turnover of about £1.6bn.

Significantly, too, the system has helped Bass operate at around 95-96 per cent capacity compared with 91-92 per cent a year ago. "An improvement of 1-2 per cent doesn't sound much," agrees Mr Fisher, but on 2.5bn pints a year it adds up to a lot of beer."

But internal streamlining is just a start. Already Bass is using electronic data interchange (EDI) to exchange orders with 1,800 pubs and 100 off-trade customers.

The company is also one of a handful of suppliers now working with supermarket chain Somerfield on a vendor-managed inventory scheme which allows the brewer direct access to sales data to estimate replenishment needs and improve production scheduling.

UK beer sales may be declining – Bass has closed four breweries in the past five years – but despite pressure on margins, profits are level.

For Mike Fisher, improved supply chain control is the key: "Managing the supply chain efficiently is the major weapon in maintaining profitability in a competitive market," he says.

Penelope Ody

---

**CASE STUDY** JBA software helps to keep Sleepeezee on its toes

# Bed specialists curb costs

The past few years have not been easy for furnishings suppliers: sales are closely tied to the health of the housing market and as that has stagnated, so too has consumer willingness to refurnish.

For bespoke bed specialists Sleepeezee, maintaining performance on its £12m turnover has been a matter of controlling costs: something that financial director Stephen Ford believes has only really been possible with the help of the company's IT systems.

"We've used our computer system to control overheads," he says, "as well as improve customer service – which we take very seriously."

Back in 1989, the company's stockholding of raw material and finished goods was about £1.7m. Today, it is less than half that, thanks in part to rationalising production to one site instead of two, but largely to IT systems from JBA which have helped cut delivery times from four weeks to one and reduce work in progress to only two to three days.

The company had originally inherited IBM MAAPICS software from its US parent, Simmons Inc. This ran on IBM System 36 hardware and controlled all operations, but an early priority was to replace it with something more attuned to UK accounting practices.

JBA's suite of management software for the System 36 provided a good match, recalls Mr Ford. Two years ago the company switched to IBM AS/400s running the updated JBA's Business 400 system.

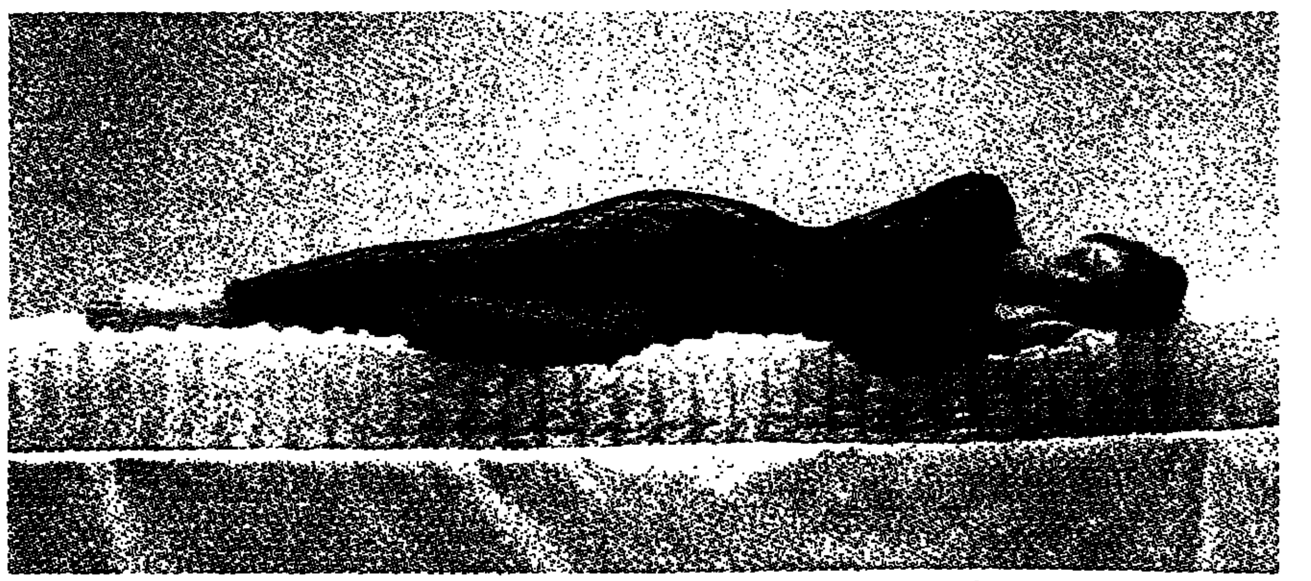
"JBA's support had always been superb," he says. "When you need help to fight fires, they're there to do it. I would go for inferior software and better support any day – especially when, like us, you have an IT department where the manager is on his own."

The JBA system allows Sleepeezee to keep tight control of stocks and monitor its labour-intensive bed production processes precisely. The company is currently introducing bar coding to the production line so that each bed can be tracked from start to finish.

This will mean that if at any time in the manufacturing cycle a customer queries progress, Sleepeezee will be able to say precisely what is being done to the bed at that exact moment. Such efficiency has brought stockholding reductions – down by some 30 per cent in the past five years – although further improvement is difficult with delivery lead times on mattress ticking from Belgium, for example, running at up to 12 weeks.

The company is, however, making efforts to further reduce these: electronic data interchange (EDI) is being introduced both for order-taking from UK retail customers and for order-placing to international fabric and timber suppliers around the world.

Sleepeezee is using a package from BT subsidiary Syntegra already favoured by one of its key retail customers.



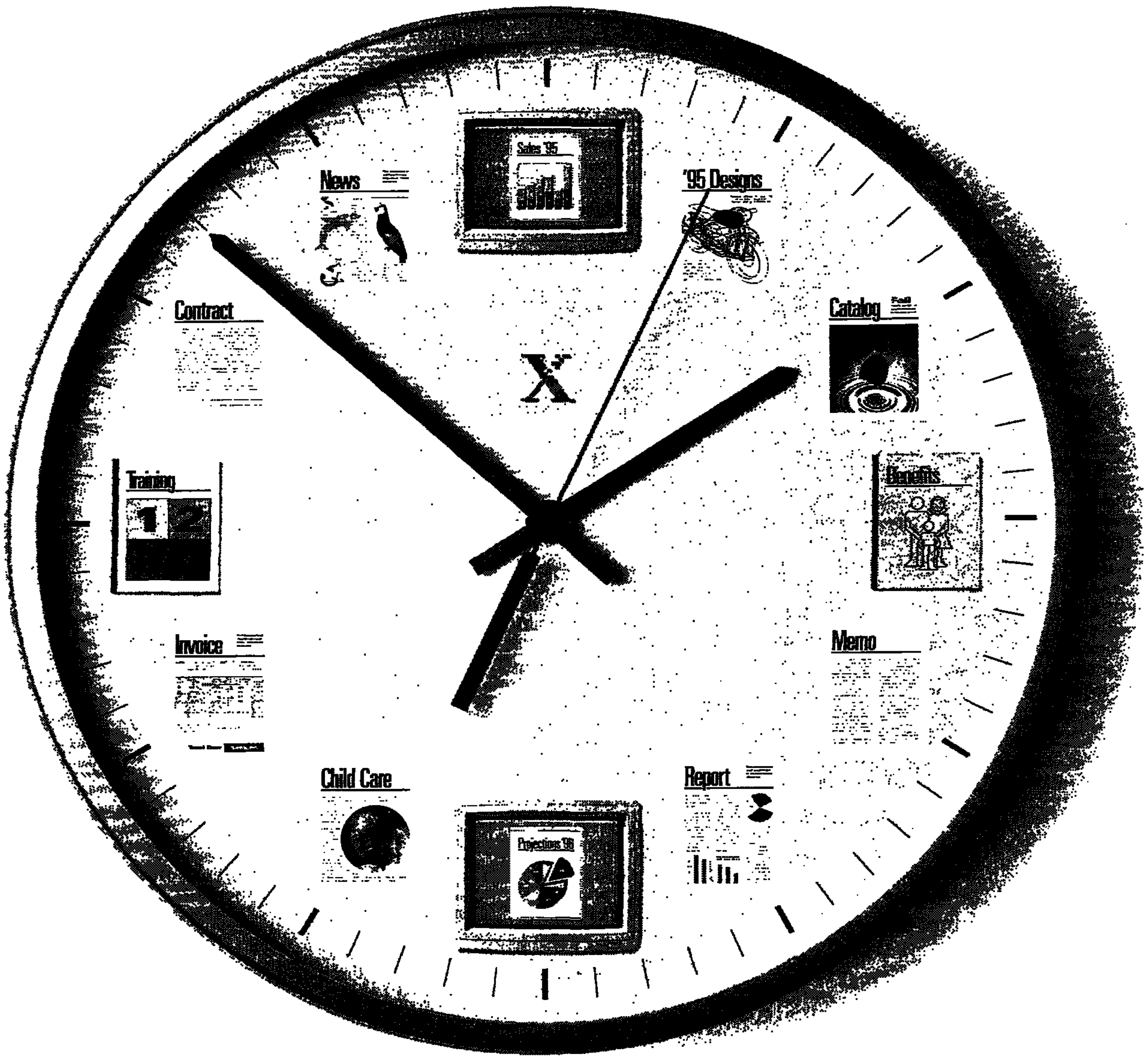
Sleepeezee has saved £450,000 since the implementation of JBA's Business 400 software. Delivery times have been cut from four weeks to one

Use of the Business 400 application is also being extended at the end of the supply chain: a transport planning module is helping marshal deliveries before ever a bed is made.

The orders are analysed by destination and a truck load identified. This group is then scheduled for production simultaneously so that as the beds are completed a full lorry can be despatched. "We're only ever building beds that we know we can deliver," says John Almazan. Once bar code monitoring of work in progress is fully in place, Sleepeezee will be able to control its plan-to-load schedules even more precisely.

Penelope Ody

THE DOCUMENT COMPANY
XEROX
Worldwide Sponsor



# THE (if we managed your documents, you'd have more time to manage your business) COMPANY

Every second counts. So why waste time managing documents when you could be spending your time attending to more critical business problems. At Xerox Business Services, we can help you use your time more efficiently by managing your document needs.

Our document experts will come to you wherever you are and study the way you use documents before recommending a solution. Then, whether it's on-site for special events or overseeing the daily document output of your office, we'll see to it that all your documents are delivered on time and to your specifications. By outsourcing with us, the entire document process is taken care of for you—from creation to storage.

Let us manage your documents so you can better manage your business. It's just a simpler way to do good work. To learn how Xerox Business Services can enhance your productivity, call 1-800-TELL-XBS, ext. 561.

THE DOCUMENT COMPANY
XEROX

XEROX,® The Document Company® and the stylized X are trademarks of XEROX CORPORATION. [illegible]

هكذا من الأصل

## LONDON SHARE SERVICE

### INV TRUSTS SPLIT CAPITAL - Cont.

| | Notes | Price | + or - | 1995 high | low | Yld Gr's | NAV | Dis or Pm(-) |
|---|---|---|---|---|---|---|---|---|
| Fleming I & C Inc | ♣v☐ | 78 | — | 81 | 69½ | 8.2 | 93.8 | 16.8 |
| Units | | 128½ | — | 131 | 116 | 4.8 | 135.9 | 5.4 |
| Zero Div Pf | | 51¾ | +¼ | 52 | 46 | – | – | – |
| Fleming Intl High | ♣v☐ | 39 | — | 39 | 29 | 11.9 | 41.0 | 4.9 |
| Zero Div Pf | | 109¼ | +½ | 109¼ | 101¾ | – | – | – |
| For & Col 80F Sp Inc | ♣F | 69¼ | –¼ | 63 | 59 | 7.8 | – | – |
| Capital | ☐ | 63¼ | –¼ | 68½ | 57½ | – | – | – |
| Units | | 121 | –1 | 132 | 118 | – | 75.3 | 16.0 |
| S | | 92 | — | 98 | 91 | 2.8 | 134.9 | 10.3 |
| Warrants | ☐ | 40 | — | 45 | 33 | – | 101.1 | 9.0 |
| Friends Prov Ethical | ♣v | 65xd | — | 78 | 51 | 11.5 | 64.0 | –1.6 |
| Units | | 178xd | — | 186 | 147 | 4.6 | 180.5 | 1.4 |
| Zero Div Pf | | 114¼ | — | 115 | 94 | – | – | – |
| Fulcrum Inc | ♣v | 36 | — | 46 | 36 | – | – | – |
| Cap | ☐ | 19 | — | 26 | 17½ | – | 44.7 | 57.5 |
| Zero Div Pf | | 159 | +½ | 159 | 141 | – | – | – |
| Gartmore Brit Inc | ♣†s | 89 | — | 96 | 82 | 8.0 | 93.4 | 4.7 |
| Zero Div Pref | | 131 | — | 131 | 100 | – | – | – |
| Units | | 217 | — | 218 | 188 | 4.2 | 221.4 | 2.0 |
| Gartmore Scot Inc | ♣v | 66 | — | 72 | 61 | 20.8 | – | – |
| Cap | | 172 | — | 114 | 80 | – | 289.1 | 59.4 |
| Zero Div Pf | | 186 | — | 186 | 160½ | – | – | – |
| Units | | £676 | — | £678 | £575 | 4.6 | – | – |
| Gartmore Shared Eq | ♣v☐ | 94xd | — | 101 | 84 | 12.8 | 83.2 | –13.0 |
| Senior Zero Pf | ☐ | 116½ | — | 117 | 95 | – | – | – |
| Junior Zero Pf | ☐ | 118 | — | 120 | 94 | – | – | – |
| Gov Cape Inc | v☐ | 107xd | — | 118 | 104 | 10.9 | – | – |
| Cap | | 180 | +1 | 189 | 138 | – | 261.1 | 31.1 |
| Stepped Pf | | 182½ | — | 183½ | 170 | 2.4 | – | – |
| HiD Inc & Gwth Spl Inc | ☐ | 112 | — | 115 | 95 | – | 110.1 | –1.7 |
| Zero Div Pf | | 116 | — | 116½ | 102 | – | – | – |
| Henderson Eurotrust | ♣v | 96 | — | 104 | 80 | 4.4 | 127.1 | 24.5 |
| Units | v | 136 | — | 143 | 115 | 2.8 | 156.6 | 13.2 |
| Zero Pf | | 41 | +¼ | 41 | 35 | – | – | – |
| Hong Kong | ☐ | 44½ | — | 46 | 33 | 5.2 | 51.5 | 13.8 |
| Warrants | | 31½ | — | 34 | 22 | – | – | – |
| Zero Div Pf | | 40 | — | 40 | 37 | – | – | – |
| IBT Optimum | ♣v | 84 | — | 87 | 78 | 10.8 | 104.7 | 10.2 |
| Zero Div Pf | | 237½ | — | 238½ | 217½ | – | – | – |
| INVESCO Blue Chip | ♣v | 62 | — | 72 | 51 | 16.9 | 67.7 | 8.4 |
| Zero Pf | | 177¼ | +¼ | 177¼ | 160½ | – | – | – |
| INVESCO Recovery | ♣ | 84 | — | 110 | 84 | 10.6 | 109.5 | 14.2 |
| Pld Growth | | 163 | +½ | 163 | 147½ | – | – | – |
| Johnson Fry Euro | ♣sv | 87xd | — | 94 | 81 | 6.4 | 95.7 | 9.1 |
| Zero Prf | | 122 | — | 122 | 103 | – | – | – |
| Johnson Fry Second | ♣†s | 81xd | — | 86 | 82 | 9.1 | 93.8 | 3.0 |
| Zero Div Pf | | 113½ | — | 113½ | 98¼ | – | – | – |
| Johnson Fry Utils | ♣v | 99xd | — | 111 | 89 | 9.7 | 103.5 | 4.3 |
| Zero Prf | | 122 | — | 122 | 108½ | – | – | – |
| Jos Hldgs Capital | ♣ | 108 | — | 111 | 95 | – | 246.2 | 55.7 |
| Income | v | 91xd | — | 103 | 91 | 18.8 | – | – |
| Zero Div Pf | | 141 | +½ | 141 | 120 | – | – | – |
| Jove Inc | ♣sv | 63 | +1 | 65 | 67 | 11.9 | – | – |
| Cap | | 40 | — | 43 | 37 | – | 57.9 | 30.9 |
| Jupiter Euro | †s | 79 | — | 83 | 69 | 3.5 | 109.5 | 27.9 |
| Warrants | | 48 | — | 49 | 45 | – | – | – |
| Zero Div Pf | | 58 | +¼ | 58½ | 51 | – | – | – |
| Jupiter Intl Green | ☐ | 47 | +1 | 48 | 35 | 9.0 | 63.9 | 26.4 |
| Warrants | | 31 | — | 31 | 24 | – | – | – |
| Units | H | 122 | — | 123 | 99 | 3.5 | 124.2 | 1.8 |
| Zero Pf | | 77 | — | 77 | 62¼ | – | – | – |
| Lowland High Inc | ♣sv | 67xd | — | 91 | 74 | 12.4 | 69.7 | 3.0 |
| Zero Div Prf | | 172½ | +½ | 173 | 158 | – | – | – |
| Lloyds Smlr Uts | ♣†v | 127xd | — | 130 | 102 | 3.6 | 139.9 | 9.2 |
| Capital | | 100 | — | 102 | 77 | – | 138.4 | 27.7 |
| Dividend | †v | 27xd | — | 29½ | 26 | 17.1 | – | – |
| M & G Dual Inc | †v | 226 | — | 313 | 210 | – | – | – |
| Cap | | 2956 | — | 2995 | 2533 | – | 3268.2 | 9.5 |
| M & G Income Inc | †v☐ | 32½xd | — | 37½ | 31½ | 19.4 | – | – |
| Cap | ☐ | 29½ | — | 33 | 26¼ | – | 75.7 | 61.0 |
| Package Units | †v☐ | 124xd | — | 129 | 116 | 5.1 | 130.2 | 4.8 |
| Geared Units | †v☐ | 62xd | –½ | 69½ | 60 | 10.2 | 77.7 | 20.2 |
| Zero Div Prf | | 63¼ | — | 63½ | 54¼ | – | – | – |
| M & G Recovery Inc | v | 25½ | — | 30 | 24½ | 19.4 | – | – |
| Capital | | 25 | –1 | 30½ | 25 | – | 73.6 | 66.0 |
| Geared Units | v | 50 | –1 | 61½ | 50 | 9.9 | 76.4 | 34.6 |
| Zero Div Prf | | 88 | +½ | 88 | 73 | – | – | – |
| Package Units | v | 138 | — | 138½ | 127 | 3.6 | 144.9 | 4.8 |
| M & G 2nd Dual Inc | † | 110 | — | 135 | 110 | 27.7 | – | – |
| Cap | | 618 | — | 638 | 503 | – | 709.8 | 12.9 |
| MCIT Inc | ♣v | 164 | — | 171 | 158 | 11.4 | – | – |
| Cap | | 319 | — | 313 | 273 | – | 339.8 | 6.0 |
| S Inc | v | 36 | — | 38 | 36 | 1.4 | – | – |

### LEISURE & HOTELS

| | Notes | Price | + or - | 1995 high | low | Mkt Cap£m | Yld Gr's | P/E |
|---|---|---|---|---|---|---|---|---|
| Airtours | ♣♣†☐ | 377 | –1 | 449 | 323 | 429.8 | 4.8 | 8.2 |
| 6½p Cv Pf | | 117 | –½ | 130½ | 103 | 69.2 | 5.6 | – |
| Allied Leis | ♣♣v☐ | 38 | +1 | 40 | 17 | 39.8 | – | Φ |
| Alpha Airports | ♣♣†v☐ | 166xd | –4 | 153 | 103 | 176.0 | 5.7 | 10.5 |
| Arcadian Intl | v☐ | 46 | +1 | 60 | 38 | 54.2 | 2.0 | – |
| BCE | ♣♣v☐ | 19¾ | — | 20½ | 12 | 42.9 | 0.4 | Φ |
| BS | ♣v | 143 | — | 185 | 138 | 8.87 | 2.7 | 19.4 |
| Baldwin | †v | 153xd | –3 | 168 | 111 | 28.2 | 3.6 | 12.3 |
| Bar & Wallace Arnold | ♣v | 220xd | — | 235 | 197 | 32.8 | 6.2 | 11.6 |
| Bluebird Toys | ♣♣†v☐ | 249 | +4 | 260 | 202 | 115.0 | 4.2 | 8.0 |
| Boosey & Hawkes | ♣†v | 445xd | — | 446 | 383 | 97.2 | 1.7 | 24.4 |
| Break for the Border | v | 59 | — | 61 | 42 | 14.6 | 3.1 | 11.2 |
| Brent Walker | v☐ | 1¾ | — | 3¼ | 1¾ | 6.44 | – | – |
| Burndene | ♣v | 40 | –1 | 46 | 33 | 42.2 | 6.0 | 13.6 |
| Capital Corp | ♣†v☐ | 186xd | — | 202 | 127 | 186.0 | 5.4 | 18.3 |
| Carlisle | ♣v☐ | 7¼ | –¼ | 28½ | 5½ | 6.84 | 6.9 | – |
| For Cassidy Bros see AIM (section) | | | | | | | | |
| CentreGold | ♣†☐ | 65 | +3 | 116 | 38 | 27.9 | 3.1 | – |
| Chrysalis | ♣ | 302 | — | 303 | 248 | 80.8 | – | – |
| City Centre | ♣♣v☐ | 93xd | +1 | 97 | 70½ | 179.8 | 2.7 | 18.0 |
| Compass | ♣†☐ | 441 | +17 | 442 | 305 | 1,384 | 2.0 | 22.9 |
| Courtyard Leis | ♣v | 12 | — | 17 | 7½ | 1.73 | – | – |
| David Lloyd | ♣♣♣†☐ | 399 | — | 400 | 240 | 189.7 | 1.2 | 29.2 |
| Euro Disney FFr | ♣☐ | 204 | — | 250 | 118 | 1,580 | – | – |
| Eurocamp | ♣♣†☐ | 244 | — | 288 | 210 | 82.5 | 5.5 | 11.5 |
| European Leis | v☐ | 167 | –½ | 178 | 93 | 22.1 | – | Φ |
| Fairline Boats | ♣† | 369 | — | 450 | 308 | 12.8 | 5.9 | 14.5 |
| Farringford | v | 18 | — | 18½ | 3½ | 4.72 | – | – |
| First Choice | ♣☐ | 65xd | –5 | 124 | 65 | 109.8 | 7.4 | 12.1 |
| 5¾p Cv Pf | | 119 | –3 | 201 | 119 | 29.9 | 10.2 | – |
| First Leisure | ♣†☐ | 323xd | — | 346 | 262 | 628.4 | 2.8 | 19.2 |
| Forte | ♣v☐ | 246 | –2 | 278 | 224½ | 2,920 | 3.9 | 27.7 |
| Friendly Hotels | ♣v | 143 | –7 | 175 | 133 | 28.5 | 5.1 | 16.5 |
| Games Workshop | ♣v☐ | 229xd | +4 | 246 | 126 | 71.1 | 2.8 | Φ |
| Granada | ♣†☐ | 647 | +7 | 663 | 478 | 3,784 | 2.0 | 17.5 |
| 7½p Cv Pf | | 227½ | +2½ | 252 | 173½ | 300.2 | 4.1 | – |
| Groupe Chez Gerard | ♣v | 154 | –5 | 160 | 108 | 28.8 | 2.0 | Φ |
| Gus Carter | v☐ | 64 | — | 98 | 62 | 10.1 | – | 17.5 |
| Hanover Intl | v | 134 | — | 139 | 108 | 1.43 | – | – |
| Hi-Tec Sports | ♣♣v☐ | 28 | — | 38 | 16 | 14.2 | 5.7 | Φ |
| Hornby | ♣♣v | 147 | –1 | 158 | 98 | 12.2 | 4.3 | 12.6 |
| Implications | ♣†♣v☐ | 119 | — | 136 | 108 | 37.4 | 4.4 | 7.5 |
| Jurys Hotel IR | ♣†☐ | 216¼ | +6 | 223½ | 134 | 91.4 | 3.3 | 19.6 |
| Kunick | ♣†☐ | 21¾ | –½ | 23½ | 14¼ | 50.6 | 4.3 | 23.7 |
| 8¼p Cv Pf | | 86 | — | 87 | 87 | 35.1 | 11.7 | – |
| Ladbroke | ♣♣v☐ | 171xd | — | 187½ | 150 | 1,883 | 4.4 | 51.8 |
| London Clubs | ♣♣v☐ | 416 | +2 | 443 | 264 | 284.5 | 4.0 | 14.0 |
| Magnolia | v | 42 | — | 64 | 41 | 2.39 | 0.3 | – |
| Man Utd | ♣v☐ | 204 | –7 | 213 | 122 | 124.0 | 2.8 | Φ |
| Mandarin Orient $ | ☐ | 83¼ | +¼ | 87¼ | 58 | 438.8 | 5.5 | 14.0 |
| Millwall | | 2¼ | — | 3 | 1½ | 9.43 | – | – |
| My Kinda Town | ♣v☐ | 13¼ | –¼ | 15¼ | 9¼ | 33.4 | 2.9 | Φ |
| Northern | ♣v☐ | 89 | — | 91 | 68 | 42.8 | 5.7 | Φ |
| Pelican | ♣♣v☐ | 104 | — | 110 | 70 | 78.4 | 1.8 | 21.6 |
| PizzaExpress | ♣♣v☐ | 190xd | — | 199 | 121 | 189.0 | 1.4 | Φ |
| Prism Leis | ♣v | 139 | — | 141 | 76 | 11.8 | 4.3 | 10.5 |
| Quadrant | v☐ | 18 | — | 31 | 18 | 8.00 | 2.0 | 44.7 |
| Queensborough | ♣v☐ | 1¼ | — | 1¾ | 0¼ | 9.29 | – | – |
| Queens Moat | v☐ | 9¼ | –¼ | 20 | 5¾ | 38.7 | – | – |
| Ramsden's (H) | ♣♣ | 259 | –1 | 295 | 217 | 22.7 | 2.2 | 30.9 |
| Rank Org | ♣♣†v☐ | 422xd | –2 | 464 | 358 | 3,586 | 4.1 | 14.3 |
| 8¼p Cv Pf | | 149 | –½ | 151 | 125½ | 328.8 | 7.2 | – |
| Regal Hotel | v☐ | 37 | — | 39 | 30 | 37.6 | – | 16.5 |
| Ryan Hotels IR | ♣v☐ | 34 | — | 37 | 28 | 22.3 | 4.8 | 11.8 |
| St James Beach Hotel | ♣v | 146 | — | 162 | 123 | 82.6 | 3.4 | 16.3 |
| Savoy A | ♣v | 895 | — | 950 | 845 | 253.1 | 1.0 | 48.7 |
| Sinclair (Wm) | ♣♣† | 213 | — | 213 | 160 | 46.4 | 4.3 | 15.9 |
| Stakis | ♣†☐ | 82 | — | 89½ | 76 | 394.2 | 2.5 | 18.2 |
| Stanley Leis | ♣v☐ | 380 | +1 | 388 | 340 | 294.8 | 2.0 | 17.8 |
| Sunleigh | v☐ | 2¼ | — | 4½ | 2¼ | 12.0 | 2.3 | 37.6 |
| Surrey | ♣v☐ | 1½ | — | 1¾ | 1 | 5.97 | – | Φ |
| Tanjong | | 346 | — | 349 | 280 | 1,297 | 0.9 | Φ |
| Thorn EMI | ♣v☐ | 1494xd | –1 | 1545 | 997 | 6,388 | 3.1 | 25.1 |
| Ticketing Grp | ♣v☐ | 0¼ | — | 1¼ | 0¼ | 2.32 | – | 12.0 |
| Tomorrows Leis | ♣v☐ | 7 | — | 10 | 6 | 11.0 | – | 3.4 |
| Tottenham | v | 162 | +1 | 169 | 117 | 25.8 | 2.4 | Φ |
| Toy Options | ♣♣v☐ | 78 | — | 78 | 63 | 15.8 | 4.2 | 11.6 |
| Tring Intl | v☐ | 103 | –12 | 128 | 91 | 43.8 | 5.2 | 11.3 |
| VCI | ♣♣♣v☐ | 235xd | +1 | 236 | 161 | 91.4 | 2.2 | 18.7 |
| Vardon | ♣♣†v☐ | 133xd | — | 136 | 125 | 116.2 | 1.4 | 19.9 |
| Wembley | v☐ | 253 | –1 | 450 | 215 | 157.3 | – | – |
| Zetters | v | 124xd | — | 135 | 95 | 8.18 | 10.1 | Φ |

### LIFE ASSURANCE

### SOUTH AFRICANS

| | Notes | Price | + or - | 1995 high | low | Mkt Cap£m | Yld Gr's | P/E |
|---|---|---|---|---|---|---|---|---|
| Anglo Am Ind | | £31½ | | £34 | £29 | 2,109 | 3.6 | Φ |
| Barlow | ♣ | £7¼ | –¼ | £7½ | £4½ | 1,417 | 1.4 | 28.1 |
| Gold Flds Prop R | | 145xd | +1 | 152 | 112 | 14.8 | 1.1 | 6.7 |
| NK Props | | 86 | | 95 | 85 | 3.46 | 13.5 | – |
| SASOL | ♥ | 500 | –3 | 648 | 435 | 2,827 | 2.7 | – |
| SA Brews | | £19¾ | | £20 | £12⅞ | 5,635 | 1.7 | Φ |
| Standard Bank | | £21½ | +¼ | £23½ | £20½ | 2,550 | 2.1 | 15.1 |
| Tiger Oats | | 915 | | 960 | 700 | 1,376 | 1.6 | 22.3 |
| Tongaat-Hulett | †† | 765 | –10 | 835 | 636 | 687.2 | 1.2 | 23.1 |

### GUIDE TO LONDON SHARE SERVICE

Prices for the London Share Service delivered by FT Extel, a member of the Financial Times Group.

Company classifications are based on those used for the FT-SE Actuaries Share Indices.

Closing mid-prices are shown in pence unless otherwise stated. Highs and lows are based on intra-day mid- prices.

Where stocks are denominated in currencies other than sterling, this is indicated after the name.

Symbols referring to dividend status appear in the notes column daily as a guide to yields and P/E ratios. Dividends and Dividend covers are published on Monday.

Market capitalisation shown is calculated separately for each line of stock quoted.

Earnings used in calculations are based on IIMR "Headline Earnings" formula.

Price/earnings ratios are based on latest annual reports and accounts and, where possible, are updated on interim figures.

Yields are based on mid-prices, are gross, adjusted for a dividend tax credit of 20 per cent and allow for value of declared distribution and rights.

Estimated Net Asset Values (NAVs) are shown for Investment Trusts, in pence per share, along with the percentage discounts (Dis) or premiums (Pm -) to the current closing share price. The NAV basis assumes prior charges at par value, convertibles converted and warrants exercised if dilution occurs.

- ☐ Indicates the most actively traded stocks. This includes UK stocks where transactions and prices are published continuously through the Stock Exchange Automated Quotation system (SEAQ) and non-UK stocks through the SEAQ International system.
- • Highs and lows marked thus have been adjusted to allow for capital changes
- † Interim since increased or resumed
- ‡ Interim since reduced, passed or deferred
- Φ Figures or report awaited
- ♥ Rule 2.1(a)(v) Overseas incorporated companies listed on an approved exchange.
- ♣ Free annual/interim report available, see details below.
- ♣ USM; not listed on Stock Exchange and company not subjected to same degree of regulation as listed securities.
- †† Rule 4.2(a) Irish incorporated non-listed companies.
- ♯ Price at time of suspension
- ◆ Indicated dividend yield after pending scrip and/or rights issue.
- ♦ Merger bid or reorganisation in progress
- § Forecast dividend yield, p/e based on earnings updated by latest interim statement.
- ♠ Unregulated collective investment scheme.

a Yield based on annualised dividend
b Figures based on prospectus or other official estimates.
g Assumed dividend yield after rights issue.
h Assumed dividend yield after scrip issue.
n Rights issue pending
q Earnings based on preliminary figures.
s Dividend yield excludes a special payment.
t Indicated dividend yield, p/e ratio based on latest annual earnings
u Forecast, or estimated annualised dividend yield, p/e based on previous year's earnings
v P/e ratios are calculated under new ACT guidelines.
z Dividend yield includes a special payment
F Yield based on prospectus or other official estimates for 1994-95.
G Assumed yield after pending scrip and/or rights issue.
H Yield based on prospectus or other official estimates for 1995.
K Yield based on prospectus or other official estimates for 1994
L Estimated annualised yield, p/e based on latest annual earnings.
M Yield based on prospectus or other official estimates for 1995-96.
R Forecast annualised yield, p/e based on prospectus or other official estimates.
W Pro forma figures.
Z Dividend yield to date.

Abbreviations:
xd ex dividend;
xc ex scrip issue;
xr ex rights;
xa ex all;
xf ex capital distribution.

This service is available to companies whose shares are regularly traded in the United Kingdom for a fee of £1275 a year for each security shown, subject to the Editor's discretion

---

### ♣ FT Free Annual Reports Service

You can obtain the current annual/interim report of any company annotated with ♣. Please quote the code FT4935. Ring 0181 770 0770 (open 24 hours including weekends) or Fax 0181 770 3822. Reports will be sent the next working day, subject to availability.

Both Annual Reports and FT Company Focus are available from the above number.

### ♣ FT Company Focus

Comprehensive 10-14 page report available on this company, containing key FT stories from the last year, latest survey of City profit forecasts and investment recommendations, 5 year financial and share price performance review, balance sheet and profit and loss data, plus recent Stock Exchange announcements for £6.45.

To order, call 0121 200 4678.

Reports published by ShareFinder Ltd.

### FT Cityline

Up-to-the-second share prices are available by telephone from the FT Cityline service. See Monday's share price pages for details.

An international service is available for callers outside the UK, annual subscription £250 stg.

**Call 0171 873 4378 for more information on FT Cityline.**

**For readers phoning from outside UK, please dial +44 in place of the first 0.**

# FT MANAGED FUNDS SERVICE

● FT Cityline Unit Trust Prices are available over the telephone. Call the FT Cityline Help Desk on (+44 171) 873 4378 for more details.

## OFFSHORE AND OVERSEAS

### BERMUDA (SIB RECOGNISED)

**Fidelity Currency Funds Ltd**
Pembroke Hall, Pembroke, Bermuda

Prices for dealing October 3

**Jupiter Tyndall (Bermuda) Ltd**
PO Box HM1256, Hamilton, Bermuda 001 809 292 2780

**Jupiter Tyndall World Umbrella Fund Ltd**

**Newport Investment Management**
73 Front street, Hamilton, Bermuda

**Orion Fund Limited**
6 Front St., Hamilton, HM11, Bermuda 809 292 6370

### BERMUDA (REGULATED)(**)

**Bermuda Intl Invmnt Mgmnt Ltd**

### GUERNSEY (SIB RECOGNISED)

**Royal Bk of Canada O/S Fd Mgrs Ltd**
PO Box 246, St Peter Port, Guernsey 01481 723021

**Saracin Funds Mngmt (Guernsey) Ltd**
PO Box 248, St Peter Port, Guernsey 01481 723021

**Schroder Investment Mngmt (Guernsey) Ltd**
PO Box 208, St Peter Port, Guernsey 01481 710857

### GUERNSEY (REGULATED)(**)

**ANZ Mngmt Co (Guernsey) Ltd**

**Apollo Investment Management Ltd**

**Arab Bank Fund Managers (Guernsey) Ltd**

**Buchanan Global Investment Fund Ltd**

**CIBC Fund Managers (Guernsey) Ltd**

**Commercial Union Captives Inv Mngt**

**Consulta (Channel Islands) Limited**

**Danitrust Management (Guernsey) Ltd**

**Global Portfolio Management (Guernsey) Ltd**

**Guernsey Capital Management Limited**

**Hambros Fund Managers (CI) Ltd**

**Hauteville Fund Managers (Guernsey) Ltd**

**Henderson Throgmorton Mngmt Ltd**

**IPS (Guernsey) Ltd**

**Kleinwort Benson Intl Fd Mngrs Ltd**

**GAM Fund Management Ltd (u)**

**GT Asset Management (Ireland) Ltd**

**Henderson Crosthwaite Investment Co**

### IRELAND (SIB RECOGNISED)

### IRELAND (REGULATED)(**)

### ISLE OF MAN (REGULATED)(**)

### JERSEY (SIB RECOGNISED)

### JERSEY (REGULATED)(**)

### ISLE OF MAN (SIB RECOGNISED)

### LUXEMBOURG (SIB RECOGNISED)

**Danske Fund (u)**
2, rue du Fosse, L-2011 Luxembourg 00 352 4612751024

### LUXEMBOURG (REGULATED)(**)

هكذا من الأصل

حكام من الأجهل

# FT MANAGED FUNDS SERVICE

● FT Cityline Unit Trust Prices are available over the telephone. Call the FT Cityline Help Desk on ( +44 171 ) 873 4378 for more details.

| | Selling Price | Buying Price | + or - | Yield Gross |
|---|---|---|---|---|
| **Credis Investment Funds** | | | | |
| [illegible] | | | | |
| **Credit Commercial de France** | | | | |
| [illegible] | | | | |
| **Daiwa Japan Gem Fund** | | | | |
| [illegible] | $9.35 | 9.50 | -0.27 | - |
| **Daiwa Japan Small Equity Fd (u)** | | | | |
| Daiwa Japan Small Eq | $12.56 | | -0.41 | - |
| **Dean Witter World Wide Invest. Tst SA** | | | | |
| NAV | $29.09 | | (z) | - |
| **The Dragon Fund Sicav** | | | | |
| NAV Oct 3 | $80.82 | | | - |
| **Emerging Markets Brewery Fund SICAV** | | | | |
| NAV | $8.21 | | | - |
| **Europe Value Fund (u)** | | | | |
| NAV | $15.90 | | | - |
| **EurOptec (u)** | | | | |
| [illegible] | | | | |
| **Fidelity Intl Inv Mngt (Luxembourg) SA** | | | | |
| New Europe Fd | $16.90 | 12.75 | +0.02 | 0.29 |
| **Fidelity Investment (CI) Ltd** | | | | |
| [illegible] | | | | |
| **The First Korea Smaller Companies Fund** | | | | |
| NAV Aug 31 | $13.07 | | | - |
| **Fleming Group** | | | | |
| [illegible] | | | | |
| **FondItalia Mgmt Company SA (Umbrella Fund)** | | | | |
| [illegible] | | | | |
| **Foreign & Colonial Emerging Markets Ltd** | | | | |
| [illegible] | | | | |
| **Framlington Russian Investment Fund** | | | | |
| NAV | $10.49 | | | - |
| **Gartmore Luxembourg S.A.** | | | | |
| Phoenix Fd | $15.08 | | | - |
| **Global Funds Management S.A. (u)** | | | | |
| Brand Frontier | $7.88 | | | - |
| **Global Futures & Options SICAV** | | | | |
| [illegible] Sep 29 | $Fr93.95 | | -1.61 | - |
| **HSBC NAPT Luxembourg SA** | | | | |
| Asia Pacific Tst NAV | $14.54 | | +0.02 | - |
| **HTR India Fund – SICAV** | | | | |
| HTR India Oct 2 | $5.84 | 6.15 | | - |
| **HYPO Capital Mgmt Invest Luxembourg SA** | | | | |
| [illegible] | | | | |
| **Henderson Independent Fund** | | | | |
| [illegible] Oct 1 | $10.26 | | +0.06 | - |
| **International Bond Trust** | | | | |
| Class A NAV | $11.57 | | +0.04 | - |
| **INVESCO International Limited** | | | | |
| [illegible] | | | | |
| **InverSud Investment Fund SICAV** | | | | |
| NAV Oct 2 | $1275.53 | | +0.12 | - |
| **Investissements Atlantiques SA** | | | | |
| NAV Sep 25 | $45.23 | 45.69 | | 0.6 |
| **Kleinwort European Bd Fd Management SA** | | | | |
| European Bond | Ecu11.66 | | | - |
| **Korea Golden Gate Fund** | | | | |
| NAV | $316.940216 | | | - |
| **Lloyds Bank Luxembourg (u)** | | | | |
| [illegible] | | | | |
| **Lombard Odier Invest (u)** | | | | |
| [illegible] | | | | |
| **MFS International Funds** | | | | |
| [illegible] | | | | |
| **Mercury Asset Management SA** | | | | |
| World Bond Fund | $34.35 | 36.21 | +0.06 | 0.00 |
| **Merrill Lynch Asset Management** | | | | |
| [illegible] | | | | |

| | Selling Price | Buying Price | + or - | Yield Gross |
|---|---|---|---|---|
| **Merrill Lynch Asset Management - Contd.** | | | | |
| Pacific Equity Portfolio | | | | |
| Class A | $9.49 | | -0.04 | - |
| Class B | $9.43 | | -0.04 | - |
| Global SmallCap Portfolio | | | | |
| Class A | $9.77 | | | - |
| Class B | $9.73 | | | - |
| Technology Portfolio | | | | |
| Class A | $13.80 | | -0.22 | - |
| Class B | $13.66 | | -0.22 | - |
| Capital Portfolio | | | | |
| Class A | $10.21 | | -0.02 | - |
| Class B | $10.19 | | -0.02 | - |
| **Monterey Trust SICAV** | | | | |
| NAV | $20.10 | | | - |
| **Morgan Stanley Sicav** | | | | |
| [illegible] | | | | |
| **Murray Universal, Sicav** | | | | |
| American Port Sep 27 | $45.65 | 47.91 | | - |
| European Port Sep 27 | [illegible] | 10.43 | | - |
| Japan Port Sep 27 | [illegible] | [illegible] | | - |
| Pacific Port Sep 27 | $21.17 | 22.23 | | - |
| **NICAM Asia Pacific Umbrella Fund** | | | | |
| Asia-Pacific | $14.50 | 14.89 | | - |
| [illegible] | | | | |
| Prices as at September 27 | | | | |
| **Nikko Asia Convertible Bond Fund** | | | | |
| Nikko Asia Conv Bond NAV | $9.67 | | | - |
| **Nikko Bank (Luxembourg) S.A.** | | | | |
| [illegible] | | | | |
| Portfolio A Shs | $100.3024 | | | - |
| Portfolio B Shs | $1.0101 | | | - |
| Price as at October 3 | | | | |
| **Nomura Asian Infrastructure Fd SICAV** | | | | |
| NAV | $20.91 | | | - |
| **Pacific Basin Growth Fund** | | | | |
| NAV A Shs | $10.01 | | -0.01 | - |
| NAV B Shs | $10.91 | | -0.05 | - |
| **Pan-Holding SA** | | | | |
| Pan Holding NAV Sep 27 | $368.69 | | | - |
| **Rosenberg Global Mngt Co SA (u)** | | | | |
| Portfolio A NAV | $12.98 | | -0.18 | - |
| Portfolio B NAV | $13.20 | | -0.34 | - |
| **Rosenberg Management SA (u)** | | | | |
| Portfolio A NAV | $10.23 | | -0.01 | - |
| Portfolio B NAV | $13.58 | | -0.26 | - |
| **Rosenberg US Japan Mngmt Co SA (u)** | | | | |
| Portfolio A NAV | $12.93 | | -0.17 | - |
| Portfolio B NAV | $14.44 | | -0.36 | - |
| **Edmond de Rothschild Group** | | | | |
| [illegible] | | | | |
| **SCI/TECH SA** | | | | |
| SCI/Tech NAV | $22.21 | | (z) | - |
| **Schroder (Switzerland) Fund** | | | | |
| [illegible] | | | | |
| **Scudder, Stevens & Clark** | | | | |
| [illegible] | | | | |
| **Societe Generale Group** | | | | |
| [illegible] | | | | |
| **State Street Luxembourg SA** | | | | |
| [illegible] | | | | |
| **Svenska Securities** | | | | |
| Israel Selection Fd NAV | $68.96 | | | - |
| **Svenska Selection Fund SICAV** | | | | |
| [illegible] | | | | |
| **Swiss Bank Corporation** | | | | |
| [illegible] | | | | |
| **Target International Ltd** | | | | |
| Intl Growth Fd | $26.52 | | -0.08 | - |
| **Templeton Emerging Asia** | | | | |
| NAV | $10.56 | | | - |
| **Tower Fund** | | | | |
| Global Bond | $10317.84 | | | - |
| Global Equity | $10079.90 | | | - |
| **Unico Financial Services SA Lux** | | | | |
| DG Bank London Branch | | | | |
| [illegible] | | | | |
| **Van Kampen American Capital Navigator Funds** | | | | |
| [illegible] | | | | |
| **"WINTERTHUR" Fund Mngmt Co (Lux) SA** | | | | |
| [illegible] | | | | |
| For World Bond Fund see Mercury Asset Management | | | | |
| **World Trust Fund** | | | | |
| Shares NAV | $15.18 | | | - |

## OFFSHORE INSURANCES

| | Selling Price | Buying Price | + or - | Yield Gross |
|---|---|---|---|---|
| **AXA Equity & Law Intl Life Assce Co** | | | | |
| [illegible] | | | | |
| **Abtrust International Ltd** | | | | |
| Rue Du Commerce, St Peter Port, Guernsey 01481 727068 | | | | |
| [illegible] | | | | |
| **Albany International Assurance Ltd** | | | | |
| St Mary's, Castletown, Isle of Man 01624 828282 | | | | |
| [illegible] | | | | |
| **Allied Dunbar International Assce Ltd (z)** | | | | |
| Lord Street, Douglas, IoM 01624 661551 | | | | |
| Sterling Managed | 110.3 | 117.4 | | - |
| [illegible] | | | | |
| **CMI Insurance Co Ltd** | | | | |
| Clerical Medical Hse, Douglas I.O.M. 01624 625698 | | | | |
| [illegible] | | | | |
| **CMI Ins Co Ltd/Clerical Med Gen Life Assce** | | | | |
| Clerical Medical Hse, Douglas, IoM 01624 625599 | | | | |
| [illegible] | | | | |
| **Eagle Star Intl Life** | | | | |
| [illegible] | | | | |
| **Equitable Life (International)** | | | | |
| [illegible] | | | | |
| **Eurolife Assurance Group** | | | | |
| [illegible] | | | | |
| **Finanzco International Ltd** | | | | |
| [illegible] | | | | |
| **Friends Provident International** | | | | |
| [illegible] | | | | |
| **Hansard International Ltd.** | | | | |
| [illegible] | | | | |
| **Irish Life International Ltd** | | | | |
| Lower Abbey Street, Dublin 1 3531 7041530 | | | | |
| [illegible] | | | | |
| **Isle of Man Assurance Ltd** | | | | |
| [illegible] | | | | |
| **Labrow International Group** | | | | |
| [illegible] | | | | |
| **Old Mutual Guernsey** | | | | |
| PO Box 121, St Peter Port, Guernsey 01481 726726 | | | | |
| [illegible] | | | | |
| **Old Mutual Hong Kong** | | | | |
| [illegible] | | | | |
| **Old Mutual International (Guernsey) Ltd** | | | | |
| PO Box 121, St. Peter Port Guernsey 01481 726726 | | | | |
| [illegible] | | | | |
| **PanEuroLife société anonyme** | | | | |
| [illegible] | | | | |
| **Premier Life** | | | | |
| [illegible] | | | | |
| **Professional Investment Consultants** | | | | |
| [illegible] | | | | |
| **Royal Life International** | | | | |
| Royal Court, Arbory Rd, Castletown IoM 01624 821212 | | | | |
| [illegible] | | | | |
| **Royal Skandia Life Assurance Ltd (z)** | | | | |
| [illegible] | | | | |
| **Scottish Equitable International SA** | | | | |
| [illegible] | | | | |
| **Scottish Provident Intl Life Ass Ltd** | | | | |
| [illegible] | | | | |
| **Sun Alliance International Life** | | | | |
| [illegible] | | | | |
| **Sun Life International (IOM) Ltd** | | | | |
| [illegible] | | | | |

## OTHER OFFSHORE FUNDS

| | Selling Price | Buying Price | + or - | Yield Gross |
|---|---|---|---|---|
| **ATSP Management Ltd** | | | | |
| Philippines Long Term Equity | | | | |
| NAV Aug 31 | $36.57 | | | - |
| **AXA Asset Management** | | | | |
| [illegible] | | | | |
| **Abtrust Fund Mngrs (Guernsey) Ltd** | | | | |
| [illegible] | | | | |
| **Acciones y Valores de Mexico SA de CV** | | | | |
| [illegible] | | | | 1.67 |
| **Adig Investment** | | | | |
| [illegible] | | | | |
| **Aetna Malaysian Growth Fd (Cayman) Ltd** | | | | |
| NAV Sep 18 | $14.70 | | | - |
| **Africa Emerging Markets Fund** | | | | |
| NAV Aug 31 | $10.49404 | | | - |
| **Alliance Capital** | | | | |
| [illegible] | | | | |
| **Allied Dunbar International Fund Mngrs (1600)F** | | | | |
| [illegible] | | | | |
| **Alpha Fund Management Ltd** | | | | |
| [illegible] | | | | |
| **Arnhold and S. Bleichroeder, Inc** | | | | |
| [illegible] | | | | |
| **Asia Pacific Capital Strategies Fund** | | | | |
| NAV Sep 25 | $9.63 | | | - |
| **Asia Pacific Securities Corp Ltd** | | | | |
| [illegible] | $8.94 | | | - |
| **Asiainvest Consultants Ltd** | | | | |
| [illegible] | $11.77 | 12.42 | -0.08 | - |
| **Asian Convertibles & Income Fd (Cayman)** | | | | |
| NAV Sep 28 | $13.53 | | | - |
| **Atlantic Investment Fund Ltd** | | | | |
| Class A Shares NAV Jun 30 | $10.65 | | | - |
| **Aurum Funds** | | | | |
| [illegible] | | | | |
| **BEA Associates** | | | | |
| [illegible] | | | | |
| **BZW Investment Management (HK) Ltd** | | | | |
| [illegible] | | | | |
| **Julius Baer Bank & Trust Co Ltd** | | | | |
| [illegible] | | | | |
| **Bahia Fund** | | | | |
| [illegible] | | | | |
| **Banco do Brasil–BB Fund** | | | | |
| Class A-Brazilian Equities | $927.145491 | | | - |
| Class B-Brazilian Fixed Inc | $1028.617653 | | | - |
| **Bank of America** | | | | |
| World Horizon Funds | | | | |
| US Bond | $10.25 | | | - |
| US Equity | $10.00 | | | - |
| **Bank of Nova Scotia Trust Co (Cayman) Ltd** | | | | |
| [illegible] | | | | |
| **Bank Von Ernst & Cie AG** | | | | |
| [illegible] | | | -0.39 | |
| **Banque de Gestion Privee, Paris** | | | | |
| [illegible] | | | | |
| **Bque Fr Serv & Co/Europ Inv Mgt Ltd** | | | | |
| Partner Emerging Markets Umbrella Fund | | | | |
| Latin Am Class A Aug 31 | $10.79 | | +0.14 | - |
| Latin Am Class B Aug 31 | $10.79 | | -0.50 | - |
| Asia Class A Aug 31 | $13.19 | | | - |
| Asia Class B Aug 31 | $13.10 | | -0.37 | - |
| Global Class A Aug 31 | $12.43 | | | - |
| Global Class B Aug 31 | $12.43 | | | - |
| **Barclays Diversified Fund** | | | | |
| NAV | Pta[illegible] | | | - |
| **Baring International Group** | | | | |
| [illegible] | | | | |
| **The Batavia Fund Ltd** | | | | |
| NAV Sep 29 | $14.55 | | | - |
| **Bear, Stearns International Ltd** | | | | |
| [illegible] | $6.87 | 6.88 | -0.02 | - |
| **Belgrave Capital Management (BI)** | | | | |
| NAV Aug 31 | $9.89 | | | - |
| **Belinvest Limited** | | | | |
| Realty | $100.10 | 103.10 | | - |
| **Belinvest Management (Guernsey) Ltd** | | | | |
| [illegible] | | | | |
| **Bermuda Capital Company Ltd** | | | | |
| NAV Oct 2 | $41.97 | | | - |
| **Blairmore Holdings Inc** | | | | |
| NAV Sep 5 | $3.42 | | | - |
| **Bordier Funds Ltd** | | | | |
| Korea Fd NAV Sep 29 | $76.05 | | | - |
| **Buchanan Fund Ltd** | | | | |
| [illegible] | | | | |
| Estimated Weekly Net Asset Value | | | | |

| | Selling Price | Buying Price | + or - | Yield Gross |
|---|---|---|---|---|
| **Butterfield Management Co Ltd** | | | | |
| [illegible] | | | | |
| **CA Securities Investment Fund Mnmgt Ltd** | | | | |
| Hong Govt Debt Sep 22 | HP110924.02 | | | - |
| **CDC International** | | | | |
| [illegible] | | | | |
| **Camco Investment Management Ltd** | | | | |
| Sectorplus–UCEFSM | $10.64 | 11.01 | | - |
| **Capital International** | | | | |
| Capital Int. Fund | $153.66 | | +0.86 | - |
| **Cathay Investment Fund Limited** | | | | |
| NAV Jun 30 | HK$11.61 | | | - |
| **Chameleon Funds Limited** | | | | |
| UK Equity Fund | £140.87 | 141.77 | | - |
| **Chescor Indian Investment Company Ltd** | | | | |
| [illegible] Sep 29 | $8.57 | | | - |
| **The China Fund** | | | | |
| [illegible] | | | | |
| **The China Invest & Development Fd Ltd** | | | | |
| Red Pig Pref NAV Sep 1 | $10.71 | | | - |
| **Citibank Global Asset Mgmt (Asia) Ltd** | | | | |
| Nippon Fd | $88.94 | | | - |
| **Citizens Investment Trust Mgt Co Ltd** | | | | |
| [illegible] | | | | |
| **Claridan Bank** | | | | |
| [illegible] | | | | 8.00 |
| **Coast Asset Management Corporation** | | | | |
| [illegible] | | | | |
| **Columbus Asset Management Ltd** | | | | |
| [illegible] | | | | |
| **Cowen Enterprise Fund N.V.** | | | | |
| [illegible] | | | | |
| **Craig Drill Capital Ltd** | | | | |
| NAV Aug 31 | $201.42 | | | - |
| **Credis Investment Funds** | | | | |
| [illegible] | | | | |
| **Credit Lyonnais Intl Asset Mgmt (HK) Ltd (1200)** | | | | |
| [illegible] | | | | |
| **Cresvale Group** | | | | |
| [illegible] | | | | |
| **Crosby Asset Management Ltd** | | | | |
| [illegible] | | | | |
| **Crystal Corporation N.V.** | | | | |
| [illegible] Sep 29 | $93.58 | 95.24 | | - |
| **DWS Deutsche Ges. F. Wertpapiersp** | | | | |
| [illegible] | | | | |
| **Daehan Investment Trust Co Ltd** | | | | |
| [illegible] | | | | |
| **Daiwa APT Japan Fund** | | | | |
| Daiwa APT Japan | $7.9723 | 8.1092 | | - |
| **Daiwa Intl Capital Management (H.K.) Ltd** | | | | |
| [illegible] | | | | |
| **Daiwa International Capital Mngt (Sgp) Ltd** | | | | |
| DICAM Malaysian Eq Oct 3 | $6803.97 | | -240.11 | - |
| **Deutscher Investment–Trust** | | | | |
| [illegible] | | | | |
| **Discover Investment** | | | | |
| [illegible] | | | | |
| **Dobbs & Swieca Asset Management** | | | | |
| [illegible] | | | | |
| **Dynasty Fund Ltd** | | | | |
| NAV Sep 1 | $1.75 | | | - |
| **EBS Overseas Fund Ltd** | | | | |
| [illegible] | | | | |
| **ENB Eastern Natural Resources SA** | | | | |
| NAV Aug 31 | SFr103.88 | | | - |
| **East Asia Hamon Asset Mngt Ltd** | | | | |
| [illegible] | | | | |
| **East Europe Development Fund Ltd** | | | | |
| [illegible] Sep 15 | $23.659000 | | | - |
| **Egerton European Dollar Fund Ltd** | | | | |
| NAV Sep 29 | $13.62 | | | - |
| **Egerton European Equity Fund Ltd** | | | | |
| NAV Sep 29 | DM14.22 | | | - |
| **Emcor Limited** | | | | |
| [illegible] | | | | |
| **Emerging Markets Management** | | | | |
| [illegible] | | | | |
| **Enigma Investments Ltd – Cayman** | | | | |
| [illegible] | | | | |
| **The Environmental Investment Co Ltd** | | | | |
| NAV Sep 26 | $9.27 | | | - |
| **Ermitage Group** | | | | |
| [illegible] | | | | |
| **Europe 1992** | | | | |
| NAV | $12.24 | | +0.07 | - |
| **FFM / Swiss Financial Services** | | | | |
| Multiple Advisory Ltd | $1360 | | | - |
| **Fenchurch Capital Management, Ltd.** | | | | |
| Gamma | $2843.92 | | | - |
| **Ferrell Management Ltd** | | | | |
| [illegible] | | | | |
| **Fidelity Investments** | | | | |
| [illegible] | $8.74 | | -0.17 | - |
| **Financiera Atlas** | | | | |
| [illegible] | | | | |
| **Firebird Capital Management** | | | | |
| Overseas Ltd NAV Aug 31 | $183.11 | | | - |
| **First Investments Ltd** | | | | |
| [illegible] | | | | |
| **First Mexico Income Fund** | | | | |
| First Mexico Inc | $15.10 | | | - |
| **Formosa Fund** | | | | |
| NAV SEPT 14 IDR US$7411 | | | | |
| **Formosa Growth Fund Limited** | | | | |
| NAV | $13.18 | | | - |
| **Forum Executive Management Ltd** | | | | |
| Euro-Venture Fund | Ecu3057.36 | | | - |
| **France Option Fund** | | | | |
| [illegible] | | | | |
| **Frank Russell Investments (Cayman) Ltd** | | | | |
| US Equity | $131.4549 | | | - |
| **Futures Fund Management (Bermuda) Ltd** | | | | |
| [illegible] | $8.49 | | | - |
| **GBC Asset Management** | | | | |
| [illegible] | | | | |
| **GEM Dolphin Investment Managers Limited** | | | | |
| [illegible] | | | | |
| **GNI Fund Management (Bermuda) Ltd** | | | | |
| [illegible] | | | | |
| **The GP Taiwan Index Fund** | | | | |
| NAV Sep 27 | $0.81 | | | - |
| **GT Chile Growth Fund Ltd** | | | | |
| NAV Sep 29 | $45.79 | | | - |
| **GT Management Plc** | | | | |
| [illegible] | | | | |
| **Gaia Currency Funds** | | | | |
| [illegible] | | | | |
| **Garantia Banking Ltd** | | | | |
| [illegible] | | | | |
| **Genesis Fund Managers Ltd** | | | | |
| [illegible] | | | | |
| **The Geo Summit Fund** | | | | |
| [illegible] | | | | |
| **Gertrust SA** | | | | |
| [illegible] | | | | |
| **Global Asset Management** | | | | |
| [illegible] | | | | |

| | Selling Price | Buying Price | + or - | Yield Gross |
|---|---|---|---|---|
| **Global Asset Management - Contd.** | | | | |
| [illegible] | | | | |
| **Global Atlc Inc** | | | | |
| NAV Sep 28 | $1384.75 | | | - |
| **Global Convertible Megatrend** | | | | |
| NAV Aug 31 | $107.06 | | | - |
| **Global Investment Fund Ltd** | | | | |
| NAV Aug 31 | $796.38 | | | - |
| **Global Leveraged Futures Fund** | | | | |
| NAV Sep 25 | $49.38 | | | - |
| **Goldman Sachs** | | | | |
| [illegible] | | | | |
| **Green Way Guaranteed Ltd** | | | | |
| NAV Jul 31 | Ecu1397.52 | | | - |
| **Greystone International** | | | | |
| [illegible] | | | | |
| **Group One International Tst** | | | | |
| [illegible] | | | | |
| **Gryphon Bond Fund Ltd (Bermuda)** | | | | |
| NAV Aug 31 | $9.71 | | | - |
| **Guardian Global Asset Management Ltd** | | | | |
| [illegible] | | | | |
| **HSBC Asset Management (Bahamas) Ltd** | | | | |
| [illegible] | | | | |
| **Hasenbichler Asset Management GmbH** | | | | |
| [illegible] | | | | |
| **Hausmann Hldgs NV Curacao** | | | | |
| Hausmann Sep 15 | $759.93 | 763.60 | | - |
| **Hull Capital Corps** | | | | |
| Hull Overseas Aug 31 | $118.47 | | | - |
| **IAA Limited** | | | | |
| Investors Shares NAV | $1588 | | | - |
| Estimated | | | | |
| **IBJ Schroder Bank & Trust Company** | | | | |
| IBJ Schroder Overseas NAV | $983.46 | | | - |
| **IDF Investment & Development Financing Ltd** | | | | |
| IDF Global | $100.88 | | | - |
| **India Investment AG** | | | | |
| NAV Sep 27 | SFr419.88 | | | - |
| **The India Magnum Fund NV** | | | | |
| NAV Sep 22 | $48.34 | | | - |
| **India Special Situations Fund Ltd** | | | | |
| NAV Aug 31 | $393.61 | | | - |
| **Indian Opportunities Fund Ltd** | | | | |
| Ordinary Sep 27 | $10.80 | 11.20 | | - |
| **Indosuez Asset Management Asia Ltd** | | | | |
| [illegible] | | | | |
| **Indosuez Asset Mngt Latin America SA** | | | | |
| [illegible] | | | | |
| **Infinity Capital Corporation** | | | | |
| Infinity Growth NAV Sep 28 | $9.7119 | | | - |
| **Integral Hedged Assets Ltd** | | | | |
| [illegible] | | | | |
| **The Jaguar Fund N.V.** | | | | |
| NAV Sep 28 | $665.45 | | | - |
| **Jardine Fleming Inv Mngt Ltd** | | | | |
| [illegible] | | | | |
| **Jardine Fleming Unit Trusts Ltd** | | | | |
| [illegible] | | | | |
| **Johnson Fry Securities Ltd** | | | | |
| [illegible] | | | | |
| **Jupiter Tyndall (Bermuda) Ltd** | | | | |
| [illegible] | | | | |
| **Kesmar Global Investments Limited** | | | | |
| [illegible] | | | | |
| **KI Asia Pacific Fund Ltd** | | | | |
| KI Asia Pacific | $10.92 | 11.00 | | - |
| **Kingate Global Fund Ltd** | | | | |
| [illegible] | | | | |
| **Kingdon Offshore N.V.** | | | | |
| NAV Sep 29 | $21.6 | | | - |
| **Korea China Super Fund Ltd** | | | | |
| NAV Jul 31 | $10.60 | | | - |
| **Korea Intl Investment Fund** | | | | |
| NAV Sep 25 | $202.86 | | | - |
| **Korea Intl Investment Fund Ltd (II)** | | | | |
| NAV Sep 25 | $81.61 | | | - |
| **Korea International Investment Fund Ltd (III)** | | | | |
| NAV Sep 25 | $111.67 | | | - |
| **Korea Investment Trust Co Ltd** | | | | |
| [illegible] | | | | |
| **Lazard Vietnam Fund Limited** | | | | |
| NAV Sep 29 | $10.48 | | | - |
| **Lehman Brothers Portugal Growth Fund** | | | | |
| NAV Aug 31 | $8.65 | | | - |
| **Lippo Asia Ltd** | | | | |
| [illegible] | | | | |
| **Lloyd George Management** | | | | |
| [illegible] | | | | |
| **Lloyds Bank Government Bonds** | | | | |
| [illegible] | | | | |
| **Lloyds Bank International (Bahamas) Ltd** | | | | |
| Lloyds America Portfolio | | | | |
| Balanced Moderate Risk | $10.26 | 10.49 | | - |
| **London Portfolio Services Group** | | | | |
| LPS Intl Grd | $12.84 | | | - |
| LPS Intl HPS | $10.24 | | | - |
| **MBf Unit Trust Managers Limited** | | | | |
| [illegible] | | | | |
| **MD Sass Re/Enterprise International Ltd** | | | | |
| Class A Shares NAV Aug 31 | $1650.40 | | | - |
| **MFS Meridian Funds** | | | | |
| [illegible] | | | | |
| **Magellan Emerging Markets Mngt (Jersey) Ltd** | | | | |
| Magellan Emerging Mkts | $710.77 | 745.44 | | - |

| | Selling Price | Buying Price | + or - | Yield Gross |
|---|---|---|---|---|
| **Magnum Funds** | | | | |
| [illegible] | | | | |
| **Magus Asset Management Ltd** | | | | |
| [illegible] | | | | |
| **Malaysia Capital Fund Ltd** | | | | |
| NAV Sep 29 | $16.34 | | | - |
| Repurchase Sep 29 | $16.17 | | | - |
| **Malaysia Fund (Labuan)** | | | | |
| NAV Sep 29 | $14.84 | | | - |
| **Malaysia Growth Fund** | | | | |
| NAV Sep 29 | $15.35 | | | - |
| **E D & F Man Investment Products** | | | | |
| [illegible] | | | | |
| **Mauritius Fund Ltd** | | | | |
| Lloyds Bank Fund Managers (Guernsey) Ltd | | | | |
| NAV Aug 31 | $10.66 | | | - |
| **MeesPierson** | | | | |
| [illegible] | | | | |
| **Merrill Lynch Asset Management** | | | | |
| [illegible] | | | | 1.92 |
| **Merrill Lynch Guernsey** | | | | |
| Indonesian Cap NAV Sep 29 | $13.18 | | | - |
| (For information Only) | | | | |
| **Millennium Asset Management** | | | | |
| [illegible] | | | | |
| **Minnisink International Ltd** | | | | |
| NAV Sep 28 | $97.70 | | | - |
| **Momentum Asset Mngmt** | | | | |
| [illegible] | | | | |
| **Montgomery Emerg Communications Fd Ltd** | | | | |
| NAV Sep 29 | $11.19 | | | - |
| **Montgomery Emerging Markets Fund Ltd** | | | | |
| NAV Sep 29 | $1259.94 | | | - |
| **Moore Global Investment** | | | | |
| [illegible] | | | | |
| **Morgan Stanley/BLL Global Allocation Fd Ltd** | | | | |
| [illegible] | | | | |
| **Morgan Stanley Emerging Market Fund** | | | | |
| [illegible] | | | | |
| **National Investment Trust Company Ltd** | | | | |
| The New Taipei Fund Ltd | $11.8291 | | | - |
| **Near East Opportunities Fund Limited** | | | | |
| NAV Aug 31 | $10.66 | | | - |
| **Norshield International Ltd (Bahamas)** | | | | |
| [illegible] | | | | |
| **North Atlantic Management Co Ltd** | | | | |
| Compass | $11.30 | 11.84 | | - |
| **North Star Fund Managers (Cayman) Ltd** | | | | |
| [illegible] | | | | |
| **Odey Asset Management Ltd** | | | | |
| Odey European | DM103.05 | | | - |
| Odey European US$ | $114.51 | | | - |
| **Omega Overseas Partners Ltd** | | | | |
| [illegible] Sep 22 | $170.6782 | | | - |
| **Opportunity Fund (z)** | | | | |
| [illegible] | | | | |
| **Optima Fund Management** | | | | |
| [illegible] | | | | |
| **Orbis Investment Management Ltd** | | | | |
| Orbis Global Eqty | $20.58 | 21.61 | -0.04 | - |
| [illegible] | | | | |
| Prices on Sept 29 Next Pricing Oct 06 Weekly Pricing | | | | |
| **Orbitex Management Ltd** | | | | |
| [illegible] | | | | |
| **ORIENT Growth Fd** | | | | |
| NAV | $13.69 | | -0.08 | - |
| **Oriental Development Company Ltd** | | | | |
| NAV | $11.58 | | | - |
| **Oryx Fund Ltd** | | | | |
| NAV Sep 30 | $10.45 | | +0.01 | - |
| **Oryx (India) Fund Ltd** | | | | |
| NAV Sep 29 | $8.45 | | -0.11 | - |
| **Oryx International Growth Fund Ltd** | | | | |
| NAV Sep 29 | £1.13 | | +0.04 | - |
| **PFC Internatl Portfolio Fd Mngt Ltd** | | | | |
| [illegible] | | | | |
| **PFM Israel Growth Fund Ltd** | | | | |
| Israel Growth | $5.39 | 5.72 | -0.07 | - |
| **PFPC International Ltd** | | | | |
| [illegible] | | | | |
| **PRS International** | | | | |
| [illegible] | | | | |
| **Pacific Growth Fund** | | | | |
| NAV | $- | | (z) | - |
| **Pactual** | | | | |
| [illegible] | | | | |
| **Pakistan Fund** | | | | |
| [illegible] | | | | |
| **Panther Capital Advisors** | | | | |
| Panther Fund Sep 28 | $11.75 | | | - |
| **Park Place Capital Limited** | | | | |
| [illegible] | | | | |
| Estimated Weekly Net Asset Value | | | | |
| **Paquot International Fund Inc** | | | | |
| NAV Aug 31 | $274.09 | | | - |
| **Peru Select Group of Funds Limited** | | | | |
| Peru 2000 | $9.71 | | | - |
| **Philippine Income Fund Inc** | | | | |
| NAV Sep 20 | $10.78 | | | - |
| **Phoenix Four, Inc** | | | | |
| NAV Apr 30 | $580.60 | | | - |
| **Portuguese Investment Fund Ltd** | | | | |
| NAV Sep 29 | $64.11 | | | - |
| **Power Capital Limited** | | | | |
| Navigator | $10.07 | 10.57 | | - |
| **Private Asset Management GAM Fund Inc** | | | | |
| NAV | $107.97 | | | - |
| **Prospect Asset Management (CI) Ltd** | | | | |
| [illegible] | | | | |
| **Prospector Fund Management Ltd** | | | | |
| Prospector Fund Ltd NAV Aug 31 | $98.4607 | | | - |
| **Putnam Emerging Funds Ltd** | | | | |
| [illegible] | | | | |
| **Putnam Europe Ltd** | | | | |
| [illegible] | | | | |
| **Quantum Group** | | | | |
| [illegible] | | | | |
| **Real Estate Strategies Ltd** | | | | |
| RES International | C$- | 1105.15 | | - |
| **Regent Fund Management Ltd** | | | | |
| [illegible] | | | | |

| | Selling Price | Buying Price | + or - | Yield Gross |
|---|---|---|---|---|
| **Republic Funds** | | | | |
| [illegible] | | | | |
| **Rosenwald, Rodell & Co Ltd** | | | | |
| [illegible] | | | | |
| **Sabre Futures Fund** | | | | |
| [illegible] | | | | |
| **Schroder Investment Management Limited** | | | | |
| Cap US Equity Sep 29 | $9.56 | | | 5.33 |
| **Schroder Investment Mngt (Hong Kong) Ltd** | | | | |
| [illegible] | | | | |
| **Schroder Investment Mgmt (Singapore) Ltd** | | | | |
| [illegible] | | | | |
| **Schroder Japanese Warrant Fund** | | | | |
| Undiluted NAV Sep 29 | $0.68 | | | - |
| **Schroders Australia Ltd** | | | | |
| Schroder Aust Sh | A$7.75 | 8.27 | | - |
| **Scimitar Bermuda Funds** | | | | |
| [illegible] | | | | |
| **Scudder, Stevens & Clark Inc** | | | | |
| [illegible] | | | | |
| **Seahawk International Inc** | | | | |
| Seahawk International Inc | $137.2712 | | | - |
| **Segespar Securities (Bermuda) Ltd** | | | | |
| Green Way Ltd NAV Jul 31 | $21362.23 | | | - |
| **Selective Assets Management Limited** | | | | |
| Capital Shares | $108.57 | | | - |
| **Shizuoni Investment Mngmt (Bermuda) Ltd** | | | | |
| Japan Opps NAV Aug 31 | $14.485 | | | - |
| **Sintra Fund Ltd** | | | | |
| NAV Sep 26 | $12.09 | | | - |
| **Sloane Robinson Investment Mngmt Ltd** | | | | |
| [illegible] | | | | |
| **Smith Barney Funds** | | | | |
| [illegible] | | | | |
| **Soditic Asset Management Inc** | | | | |
| [illegible] | | | | |
| **Sofaer Capital Inc** | | | | |
| [illegible] | | | | |
| **Carl Spaengler KAG** | | | | |
| Long Term Value Trust NAV | $850.93 | | | - |
| **Springfield Fund Mngmt (Gibraltar) Ltd** | | | | |
| Global Liquidity Fd Ltd | $110.36 | | | 5.80 |
| **Sri Lanka Growth Fund** | | | | |
| NAV Sep 28 | $5.37 | | | - |
| **State Street Banque SA** | | | | |
| [illegible] | | | | |
| **Stroms Offshore Limited** | | | | |
| NAV Aug 31 | $221.92 | | | - |
| **Suisse Finance Corporation** | | | | |
| Infinity Investors Ltd | $5536 | | | - |
| **Swiss Bank Corporation** | | | | |
| [illegible] | | | | |
| **Taipei Fund** | | | | |
| [illegible] | | | | |
| **Taiwan Opportunities Fund Ltd** | | | | |
| NAV Sep 29 | $7.83 | | | - |
| **Templeton Galbraith & Hansberger Ltd** | | | | |
| Global Inc | $8.07 | 8.54 | | - |
| **The Thai-Euro Fund Ltd** | | | | |
| [illegible] | | | | |
| **The Thai Prime Fund Limited** | | | | |
| NAV Sep 29 | $23.10 | | | - |
| **The Thailand Fund** | | | | |
| [illegible] | | | | |
| **The Thailand Growth Fund** | | | | |
| [illegible] | | | | |
| **The Thailand Intl Fund Ltd** | | | | |
| Fidelity International Ltd | | | | |
| NAV Sep 29 | $43.52 | | | - |
| **Thames Currency Funds** | | | | |
| [illegible] | | | | |
| **Thornton Investment Management Ltd** | | | | |
| [illegible] | | | | |
| **Titan Capital Management** | | | | |
| [illegible] | | | | |
| **Trans Global Funds Group** | | | | |
| [illegible] | | | | |
| **Ultra Cerberus Fund Ltd** | | | | |
| Fund Advisors Ltd Aug 31 | $1361.47 | | | - |
| **Ultra China Fund** | | | | |
| Fund Advisors Ltd Aug 31 | $939.41 | | | - |
| **Ultra Futures Fund Ltd** | | | | |
| Fund Advisors Ltd Aug 31 | $10641.78 | | | - |
| **Ultra Interest Plus Fund** | | | | |
| [illegible] | | | | |
| **Ultra Sector Fund Ltd** | | | | |
| Fund Advisors Ltd Aug 31 | $1395.80 | | | - |
| **Ultra Value Fund Ltd** | | | | |
| Fund Advisors CI C Aug 31 | $982.32 | | | - |
| **Ultra Westcliff Fund Ltd** | | | | |
| Fund Advisors Ltd Aug 31 | $1023.27 | | | - |
| **Value Partners 'A' Fund** | | | | |
| NAV Sep 28 | $16.51 | | | - |
| **Valu-Trac Investment Management Ltd** | | | | |
| [illegible] | | | | |
| **The Vietnam Frontier Fund** | | | | |
| NAV (Partly Paid) Aug 31 | $5.25 | | | - |
| **The Vietnam Fund Limited** | | | | |
| NAV Fully Paid Aug 31 | $10.97 | | | - |
| **Wellington Fd Mngrs (Bermuda) Ltd** | | | | |
| [illegible] Growth Fd | $15.79 | 16.58 | +0.16 | - |
| **Wells Fargo U.S. IT Fund** | | | | |
| Wells Fargo A Shs | $14.84 | | -0.04 | - |
| Wells Fargo B Shs | $15.15 | | -0.16 | - |
| **Worldwide Limited** | | | | |
| NAV Aug 31 | $72.41 | | | - |
| **Xiphias International Investment Fd Ltd** | | | | |
| Xiphias Global Growth | $9.39 | | | - |
| [illegible] | Ecu1[illegible] | | | - |
| [illegible] | Ecu1[illegible] | | | - |
| **Zanett Lombardier Ltd** | | | | |
| NAV Sep 1 | $108.37 | | | - |
| **Zweig–DiMenna International Limited** | | | | |
| NAV Aug 31 | $12834.0 | | | - |

### MANAGED FUNDS NOTES

Prices are in pence unless otherwise indicated and those designated $ with no prefix refer to U.S. dollars. Yields % allow for all buying expenses. Prices of certain older insurance linked plans subject to capital gains tax on sales.

(**) Funds not SIB recognised. The regulatory authorities for these funds are:

Bermuda - Bermuda Monetary Authority
Guernsey - Financial Services Commission
Ireland - Central Bank of Ireland
Isle of Man - Financial Supervision Commission
Jersey - Financial Services Department
Luxembourg - Institut Monetaire Luxembourgeois.

Initial charge - Charge made on sale of units.
Selling price - Bid or redemption price.
Buying price - Offer or issue price.
Time - The time shown alongside the fund manager's name is the time of the fund's valuation point unless indicated by one of the following symbols:
(♥) - 0001 to 1100 hours
(♦) - 1101 to 1400 hours
(♣) - 1401 to 1700 hours
(♠) - 1701 to midnight
E - Exit charge on sale of units.
C - Manager's periodic charge deducted from capital.
H - Historic pricing F - Forward pricing
h - Distribution free of UK taxes.
p - Periodic premium insurance plans.
s - Single premium insurance.
u - Designated as a UCITS (Undertakings for Collective Investment in Transferable Securities).
x - Offered price includes all expenses except agent's commission.
z - Previous day's price.
§§ - Guernsey gross.
♦ - Yield before Jersey tax.
† - Ex-subdivision. xd - Ex-dividend.
‡ - Only available to charitable bodies
φ - Yield column shows annualised rates of NAV increase.

## LONDON STOCK EXCHANGE

**MARKET REPORT**

# Wall Street worries take the edge off equities

**By Steve Thompson,**
**UK Stock Market Editor**

A poor opening by Wall Street, in spite of a firm bond market, undermined sentiment across Europe's stock markets yesterday and London was no exception.

The equity market's premier index, the FT-SE 100, which had painstakingly constructed a double-digit improvement throughout a difficult morning and early afternoon, came off its best to end the session only fractionally ahead.

There were strong hints in the market that the extreme nervousness surrounding the leaders could have been triggered by a sizeable trading programme, which impacted some 30 minutes before the close.

The FT-SE 100 index closed a net 4.0 higher at 3,524.2. The FT-SE Mid 250, which contains most of the water and electricity stocks, which have been the focus of the market's attention for the last four months, gave a much more confident performance. It closed only a shade below the day's best and finally 9.7 ahead at 3,968.6.

The utilities areas of the market *had disappointed speculators at the* outset of trading when rumoured bids for London Electricity and Northumbrian Water failed to materialise, producing widespread initial losses in the two sectors.

Sentiment picked up significantly during the afternoon when the Texan utilities Houston Industries and *CSW International jointly* raised their offer for Norweb, topping North West Water's increased bid. Utilities specialists insisted that North West Water would move *heaven and earth to win control of* the electricity distributor that operates on the same territory as the water company.

The frantic bid speculation that *has driven recs to record levels in* recent weeks has now shifted to the water sector, where speculators are pinning their hopes on the emergence of a spate of bids. With Lyonnaise des Eaux still expected to bid for Northumbrian, and in the event of being prevented from that, to bid for Yorkshire Water, and Générale *des Eaux thought to be looking* hard at a move against Severn Trent, there were more big gains throughout the sector.

The FT-SE 100 began the day *around five points lower, upset at* the absence of any bid moves, but was quickly on the mend, with dealers reporting a constant stream of small buying orders.

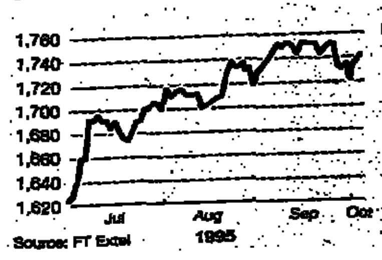
*The morning's batch of economic* news, which included an unexpectedly large decline in net consumer credit lending during August, had little impact in the market.

Of the individual stocks, British Airways was the undisputed star performer in the market, the shares racing ahead to top the FT-SE 100 *performance table after news* of the potential link-up between USAir, where BA has a 26 per cent shareholding, and one of the two US airlines currently involved in talks *with USAir.*

Late in the session there was extraordinarily heavy turnover in GEC after hints of increasing institutional pressure for Lord Weinstock *to step* down as managing director.

Turnover at 6pm was 710.1m shares. Customer business on Monday was a surprisingly low £1.275bn.

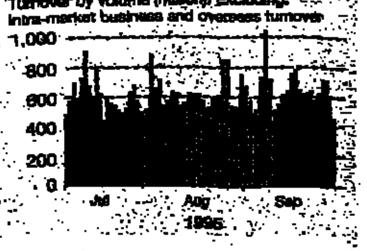
### FT-SE-A All-Share index



Source: FT Extel

### Equity shares traded

Turnover by volume (million). Excluding: Intra-market business and overseas turnover



### Indices and ratios

| | | | | | |
|---|---|---|---|---|---|
| FT-SE 100 | 3524.2 | +4.0 | FT Ordinary Index | 2613.7 | +6.2 |
| FT-SE Mid 250 | 3968.6 | +9.7 | FT-SE-A *Non Fins p/e* | 17.06 | (17.03) |
| FT-SE-A 350 | 1761.5 | +2.6 | FT-SE100 Fut Dec | 3545.0 | -13.0 |
| FT-SE-A All-Share | 1741.28 | +2.39 | 10 yr Gilt yield | 8.00 | (8.03) |
| FT-SE-A All-Share yield | 3.83 | (3.84) | Long gilt/equity yld ratio: | 2.18 | (2.17) |

### Best performing sectors

1 Electronic & Elec Equ. ........ +1.9
2 Transport ........ +1.2
3 Chemicals ........ +1.2
4 Health Care ........ +0.9
5 Other Financial ........ +0.9

### Worst performing sectors

1 Diversified Indls. ........ -1.0
2 Household Goods ........ -0.6
3 Electricity ........ -0.4
4 Extractive Inds. ........ -0.3
5 Food Producers ........ -0.3

# GEC up on board rumours

Electronics giant **GEC** was easily the most active Footsie stock, with 27m shares changing hands, the heaviest one-day turnover since July last year, as speculation about imminent management changes ran round the market.

The group is not due to make an official pronouncement until December when it unveils the interim statement. But traders got a strong sniff of something in the wind yesterday, and there were plenty of dealers putting their money on the long-running Lord Weinstock succession story.

The shares closed 12 higher at 329p, up almost 4 per cent and back to within 9p of this year's peak.

## BAe in demand

**British Aerospace** moved ahead strongly as speculation on a flotation next year for the Orange mobile phones group gained fresh impetus from the latest new subscriber numbers from UK cellular leader Vodafone.

BAe, which has outpaced the market as a whole by more than 30 per cent over the past three months aided by some strong interim results, climbed 9¼ to 747p as analysts recalculated their Orange value numbers in the light of possible market share gains for the Hong Kong owned group.

Vodafone's third-quarter new subscriptions fell short of expectations as a result of competitive pressure from rivals such as Orange and Cellnet. Some estimates put BAe's 30 per cent stake in Orange at £700m, a fifth of BAe's stock market capitalisation.

Switch advice was said to have caused **GKN** to retreat 10 to 817p. Some houses have been urging clients to move into **Lucas Industries**, up 6 at 201p in 4.5m traded ahead of next Monday's annual results.

Norweb, the north western regional electricity company, rose 5 to 1087p as the two "Texas Ranger" white knights – Houston Industries and Central and South West Corp – returned with a raised bid.

The offer tops **North West** Water's cash bid, but most utilities analysts are convinced that the UK water utility is determined to get control of Norweb and has no intention of dropping out of the race. They expect it to return with a new offer very shortly. North West Water slipped a penny to 591p.

The news, which came shortly before the close, put some sparkle back in the sector, which had been dull for *most of the day. London Elec*tricity fell 23 to 897p after a rumoured bid, possibly by Thames Water, failed to materialise. Thames rose 3 to 552p. *However, Northumbrian Water* fared better in spite of the non-appearance of a widely flagged bid from Lyonnaise des Eaux, of France. Analysts are still confident that there will be an agreed bid at around the £11-a-share level and Northumbrian added 20 at 1033p, a new high for the stock.

News that USAir is in talk with two leading US airlines propelled **British Airways** to the top of the Footsie rankings. *The shares, up 36¼ at one* stage, closed 20 ahead at 472p in 13m traded. And the equivalent of a further 2.5m shares were dealt in the traded options market.

Hopes of a US bidding auction was seen as restoring value to USAir, which has run up a string of losses lately and is 24.6 per cent owned by BA. Analysts suggested that a takeover would lead to back payment of USAir preference dividends and would allow BA to restore the balance sheet value of its investment. This was written down by half to $300m earlier this year. According to UBS, the two moves could be worth around 14p a share to BA.

Beyond this, most dealers were treading warily yesterday. But at the very least a US takeover of USAir was seen as cementing BA's global strategy.

Satellite broadcaster **BSkyB** *gained 10 at 406p – a new high* – as the market responded to news of price increases for its channel packages. Also, buying from index funds continued fol*lowing the stock's recent move* into the FT-SE 100.

**Shell Transport** moved up 4 to 748p as NatWest Securities turned more positive on the stock. *Analyst Mr Fergus* MacLeod doubled his growth forecasts for the next five years from 4 per cent a year to 8 per cent. He commented: "Following recent underperformance the valuation is now less demanding, while at last we see signs that efforts to improve profitability are beginning to bear fruit."

**Aran**, the Irish oil exploration company, issued its defence against the bid by Arco yesterday. Aran claimed its shares were worth 106p. But Aran shares rose only 1¼ to 67p as the market remained unimpressed.

***Hardy Oil & Gas** built on* earlier gains as the company revealed it had appointed Mr John Van Der Welle, currently group treasurer of Enterprise *Oil, as its new finance director,* replacing Mr Tony Whyatt.

A strong broker recommendation helped to boost drinks and leisure group **Whitbread**. *The shares jumped 10 to 628p.*

Strauss Turnbull pointed out that the stock has underperformed the market since Whitbread's recent acquisitions of *Marriott Hotels in the UK and* David Lloyd, the tennis and health club business. Ms Alex Oldroyd at the broker believes the market has so far "underestimated" the benefits of the purchases, and she added: "Whitbread is also a cheap way into the leisure sector, which is more highly rated."

In the rest of the drinks sector, profit-taking saw **Regent Inns** surrender 11 to 581p. It was also profit-taking that left **Allied Domecq** 2 lighter at 536p. Sporadic buying helped **Scottish & Newcastle** recover from recent lows to close 6 ahead at 607p.

*Dixons was wanted and the* shares appreciated 15½ to 368½p in trade of 4.2m, following a lunch for institutional investors hosted by Cazenove, the company's broker.

Chemicals giant **ICI** rose 12 to 820p after UBS issued a positive note on the stock. The note pinpointed ICI as the main beneficiary among UK companies of the current strong stage in the chemicals cycle. **BOC** moved up 19 to 819p as Smith New Court reiterated a buy recommendation on the gases to healthcare group after visiting the company.

Textiles group **Coats Viyella** gained 3 at 204p ahead of an analysts' visit today.

Elsewhere in the sector, **A. Beckman** jumped 18 to 58p as the 75 per cent stakeholders announced they intended to take the remaining 25 per cent back into private hands at 256p a share.

Interest in the fund management sector alighted on **M&G**, which jumped 54 to 1204p. Investors have been specula*ting for some time* on the next takeover target in the sector.

Business magazine publisher **Euromoney** tumbled 312 to a low for the year of 1083p after *announcing* that profits for the year to September 30 1995 were expected to be around 25 per cent below the £24m achieved the year before. Majority share*holder Daily Mail & General* **Trust** dropped 37 to 1068p in the "A"s.

Diversified industrial **Harrisons & Crosfield** closed a penny lower at 152p, having been 6¼ off at one stage on news that restructuring in its hard pressed building materials division is going to cost £5m rather than the £1.5m announced earlier this year.

**MARKET REPORTERS:**
**Peter John,**
***Joel Kibazo,***
**Jeffrey Brown.**

### FINANCIAL TIMES EQUITY INDICES

| | Oct 3 | Oct 2 | Sep 29 | Sep 28 | Sep 27 | Yr ago | *High | *Low |
|---|---|---|---|---|---|---|---|---|
| Ordinary Share | 2613.7 | 2607.5 | 2601.5 | 2586.6 | 2587.5 | 2325.8 | 2666.5 | 2238.3 |
| Ord. div. yield | 4.10 | 4.11 | 4.12 | 4.14 | 4.14 | 4.42 | 4.73 | 4.02 |
| P/E ratio net | 15.73 | 15.69 | 15.64 | 15.56 | 15.55 | 17.49 | 21.38 | 15.47 |
| P/E ratio nil | 15.55 | 15.46 | 15.46 | 15.38 | 15.36 | 17.53 | 22.21 | 15.25 |

*For 1995. Ordinary Share Index since compilation: high 2713.6 2/02/94: low 49.4 26/6/40
FT Ordinary Share Index base date 1/7/35.

*Ordinary Share hourly changes*

| Open | 9.00 | 10.00 | 11.00 | 12.00 | 13.00 | 14.00 | 15.00 | 16.00 | High | Low |
|---|---|---|---|---|---|---|---|---|---|---|
| 2605.4 | 2610.5 | 2618.4 | 2613.6 | 2617.2 | 2617.9 | 2616.7 | 2615.9 | 2615.7 | 2619.6 | 2605.4 |

| | Oct 3 | Oct 2 | Sep 29 | Sep 28 | Sep 27 | Yr ago |
|---|---|---|---|---|---|---|
| SEAQ bargains | 29,451 | 28,948 | 28,199 | 28,146 | 28,536 | 22,679 |
| Equity turnover (£m)† | - | 1275.0 | 1606.1 | 2122.4 | 3030.5 | 1066.2 |
| Equity bargains† | - | 34,796 | 31,260 | 30,776 | 30,446 | 25,427 |
| Shares traded (m)† | - | 465.3 | 611.5 | 726.3 | 730.4 | 414.4 |

†Excluding intra-market business and overseas turnover.

### ■ London market data

| Rises and falls* | | 1995 Highs and lows | | LIFFE Equity options | |
|---|---|---|---|---|---|
| Total Rises | 599 | Total Highs | 120 | Total contracts | 15,659 |
| Total Falls | 841 | Total Lows | 40 | Calls | 9,349 |
| Same | 1,664 | | | Puts | 6,310 |

Oct. 3 *Data based on Equity shares listed on the London Share Service.

### LONDON RECENT ISSUES: EQUITIES

| Issue price p | Amt paid up | Mkt. cap (£m.) | 1995 High | Low | Stock | Close price p | +/- | Net div. | Div. cov. | Grs yld | P/E net |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | F.P. | 14.8 | 71 | 50 | Consolidated Coal | 67 | | - | - | - | - |
| - | F.P. | 5.62 | 125 | 120 | †Euro Sales Fin | 125 | | - | - | - | - |
| - | F.P. | 6.00 | 40 | 25 | Hay & Robertson | 40 | | v- | - | - | - |
| - | F.P. | 12.2 | 80 | 68 | †Inner Workings | 73 | | - | - | - | - |
| 65 | F.P. | 16.9 | 89 | 84 | Mayflower | 88 | +1 | Zv0.87 | 2.6 | 1.0 | 50.2 |
| - | F.P. | 9.73 | 3¾ | 3½ | Media Business | 3¾ | | - | - | - | - |
| 45 | F.P. | 17.6 | 61 | 52 | †MultiMedia | 61 | | v- | - | - | - |
| - | F.P. | - | 103 | 100 | Murray Vct | 103 | +2 | - | - | - | - |
| - | F.P. | 5.43 | 96 | 70 | †Omnicare | 88 | +2 | Hv1.5 | 4.0 | 2.1 | 14.6 |
| - | F.P. | 14.4 | 61 | 60 | Pemberstone | 60 | | v- | - | - | - |
| 100 | F.P. | 30.6 | 104 | 99 | Pictet British | 102 | | - | - | - | - |
| 400 | F.P. | 3.62 | 400 | 400 | †Preston Nth End | 400 | | v- | - | - | - |
| 125 | F.P. | 13.2 | 133 | 6½ | †SCS Satellite | 128 | +2 | - | - | - | - |
| 149 | F.P. | 47.8 | 183 | 168 | Universal Salvage | 178 | | Mv5.07 | 1.7 | 3.6 | 20.6 |
| - | F.P. | - | ½ | ½ | Upton & Sthn Wts | ½ | | - | - | - | - |

† Alternative Investment Market. For a full explanation of all other symbols please refer to The London Share Service notes.

## FT GOLD MINES INDEX

| | Oct 2 | % chg on day | Sep 28 | Year ago | Gross div yield % | P/E ratio | 52 week High | 52 week Low |
|---|---|---|---|---|---|---|---|---|
| Gold Mines Index (34) | 1971.80 | -0.7 | 1985.73 | 2324.26 | 1.98 | - | 2324.26 | 1637.91 |
| ■ Regional Indices | | | | | | | | |
| Africa (16) | 2725.01 | -0.7 | 2744.78 | 3569.62 | 3.97 | 25.11 | 3711.87 | 2428.19 |
| *Australasia (6)* | *2401.75* | *+0.1* | *2398.36* | *2926.39* | *2.12* | *26.33* | *2951.49* | *1788.20* |
| North America (12) | 1694.66 | -0.9 | 1709.53 | 1867.83 | 0.79 | 48.62 | 1867.83 | 1348.18 |

Copyright, The Financial Times Limited 1995. "FT Gold Mines Index" is a trademark of The Financial Times Limited. Figures in brackets show number of companies. Basis US Dollars. Base Values: 1000.00 31/12/92. † Partial. Latest prices were unavailable for this edition.

## FT - SE Actuaries Share Indices — The UK Series

| | Oct 3 | Day's chge% | Oct 2 | Sep 29 | Sep 28 | Year ago | Div. yield% | Net cover | P/E ratio | Xd adj. ytd | Total Return |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *FT-SE 100* | *3524.2* | *+0.1* | *3520.2* | *3506.2* | *3479.0* | *3001.8* | *4.00* | *2.07* | *15.07* | *118.95* | *1395.76* |
| FT-SE Mid 250 | 3968.6 | +0.2 | 3958.9 | 3948.8 | 3914.8 | 3455.3 | 3.44 | 1.82 | 19.94 | 112.35 | 1542.24 |
| FT-SE Mid 250 ex Inv Trusts | 3994.3 | +0.3 | 3982.5 | 3970.7 | 3934.3 | 3446.1 | 3.57 | 1.88 | 18.66 | 117.52 | 1552.07 |
| FT-SE-A 350 | 1761.5 | +0.1 | 1758.9 | 1753.3 | 1738.5 | 1507.9 | 3.88 | 2.02 | 15.96 | 57.66 | 1425.74 |
| FT-SE-A 350 Higher Yield | 1745.3 | +0.1 | 1743.3 | 1737.6 | 1720.9 | 1506.8 | 4.96 | 1.82 | 13.85 | 72.94 | 1171.51 |
| FT-SE-A 350 Lower Yield | 1782.7 | +0.2 | 1779.7 | 1774.1 | 1761.3 | 1470.9 | 2.77 | 2.39 | 18.89 | 41.10 | 1205.47 |
| *FT-SE SmallCap* | *1971.61* | *+0.1* | *1970.52* | *1970.43* | *1969.27* | *1795.39* | *3.27* | *1.68* | *22.73* | *50.04* | *1584.13* |
| FT-SE SmallCap ex Inv Trusts | 1956.74 | +0.1 | 1954.52 | 1954.27 | 1952.87 | 1785.94 | 3.49 | 1.75 | 20.43 | 52.35 | 1580.02 |
| FT-SE-A ALL-SHARE | 1741.28 | +0.1 | 1738.89 | 1733.73 | 1720.19 | 1497.44 | 3.83 | 2.00 | 16.33 | 56.00 | 1432.44 |

### ■ FT-SE Actuaries All-Share

| | Oct 3 | Day's chge% | Oct 2 | Sep 29 | Sep 28 | Year ago | Div. yield% | Net cover | P/E ratio | Xd adj. ytd | Total Return |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 MINERAL EXTRACTION(23) | 2955.74 | +0.3 | 2947.12 | 2940.08 | 2907.56 | 2668.27 | 3.82 | 2.09 | 15.70 | 99.12 | 1236.30 |
| 12 Extractive Industries(7) | 4268.74 | -0.3 | 4283.35 | 4223.90 | 4167.39 | 3944.28 | 3.46 | 2.51 | 14.36 | 104.39 | 1212.43 |
| 15 Oil, Integrated(3) | 2921.48 | +0.5 | 2906.33 | 2908.91 | 2876.15 | 2607.67 | 4.02 | 2.04 | 15.26 | 106.40 | 1252.96 |
| 16 Oil Exploration & Prod(13) | 1975.06 | +0.2 | 1971.82 | 1968.86 | 1962.24 | 1904.34 | 2.54 | 1.48 | 33.13 | 49.88 | 1172.38 |
| 20 GEN INDUSTRIALS(276) | 1993.29 | +0.3 | 1987.63 | 1984.91 | 1968.41 | 1860.08 | 4.13 | 1.81 | 16.77 | 66.90 | 1061.86 |
| *21 Building & Construction(38)* | *928.55* | *+0.3* | *923.59* | *922.24* | *912.58* | *1024.06* | *4.38* | *1.86* | *15.36* | *32.20* | *758.84* |
| 22 Building Matls & Merchs(31) | 1743.61 | +0.2 | 1740.37 | 1740.62 | 1715.99 | 1818.20 | 4.23 | 2.01 | 14.71 | 56.87 | 857.05 |
| 23 Chemicals(23) | 2447.34 | +1.2 | 2418.10 | 2415.99 | 2408.06 | 2312.42 | 3.94 | 1.83 | 17.39 | 79.34 | 1131.85 |
| 24 Diversified Industrials(20) | 1775.95 | -1.0 | 1793.25 | 1784.58 | 1760.16 | 1781.92 | 5.59 | 1.58 | 14.20 | 87.14 | 964.96 |
| 25 Electronic & Elect Equip(36) | 2173.64 | +1.8 | 2132.25 | 2132.02 | 2119.14 | 1879.06 | 3.44 | 1.93 | 18.81 | 58.99 | 1106.38 |
| 26 Engineering(69) | 2215.76 | +0.4 | 2206.29 | 2204.03 | 2188.78 | 1782.22 | 3.27 | 1.99 | 19.16 | 55.11 | 1314.52 |
| *27 Engineering, Vehicles(13)* | *2670.06* | *+0.2* | *2664.53* | *2684.52* | *2663.49* | *2198.98* | *3.51* | *0.83* | *42.63* | *71.44* | *1348.72* |
| 28 Paper, Pckg & Printing(27) | 2915.77 | -0.3 | 2923.32 | 2924.47 | 2912.08 | 2792.80 | 3.41 | 2.50 | 14.66 | 85.03 | 1189.10 |
| 29 Textiles & Apparel(21) | 1615.06 | +0.4 | 1608.05 | 1607.56 | 1604.04 | 1580.98 | 4.47 | 1.76 | 15.86 | 50.56 | 954.65 |
| 30 CONSUMER GOODS(92) | 3398.23 | ...... | 3397.78 | 3388.69 | 3371.13 | 2880.67 | 3.93 | 1.76 | 18.04 | 114.51 | 1225.86 |
| 31 Breweries(18) | 2614.91 | +0.8 | 2593.07 | 2586.97 | 2578.16 | 2143.29 | 3.81 | 1.99 | 16.49 | 62.40 | 1223.01 |
| 32 Spirits, Wines & Ciders(10) | 2976.90 | +0.1 | 2975.17 | 2984.41 | 2959.45 | 2780.74 | 4.01 | 1.84 | 16.88 | 95.18 | 1042.54 |
| *33 Food Producers(24)* | *2480.93* | *-0.3* | *2487.73* | *2496.20* | *2486.09* | *2274.31* | *4.07* | *1.77* | *17.38* | *80.26* | *1095.52* |
| 34 Household Goods(11) | 2545.24 | -0.6 | 2561.59 | 2586.24 | 2581.92 | 2286.85 | 3.74 | 2.06 | 16.25 | 59.15 | 844.16 |
| 36 Health Care(17) | 2001.59 | +0.9 | 1982.82 | 1989.70 | 1978.76 | 1583.39 | 2.60 | 1.81 | 26.57 | 37.42 | 1194.25 |
| 37 Pharmaceuticals(11) | 4479.68 | -0.1 | 4485.72 | 4450.89 | 4448.02 | 2960.56 | 3.61 | 1.57 | 22.00 | 153.87 | 1493.64 |
| 38 Tobacco(1) | 4481.10 | ...... | 4481.10 | 4476.86 | 4375.21 | 3569.56 | 5.35 | 1.90 | 12.32 | 229.23 | 1084.11 |
| 40 SERVICES(226) | 2183.58 | +0.3 | 2176.72 | 2167.11 | 2158.75 | 1875.44 | 3.05 | 2.07 | 19.77 | 55.08 | 1112.41 |
| 41 Distributors(30) | 2749.53 | -0.2 | 2754.51 | 2743.43 | 2725.25 | 2475.91 | 3.60 | 1.75 | 19.87 | 73.00 | 989.93 |
| 42 Leisure & Hotels(29) | 2488.11 | +0.2 | 2484.90 | 2477.71 | 2467.71 | 2046.07 | 3.21 | 1.85 | 20.98 | 69.61 | 1272.92 |
| 43 Media(43) | 3361.71 | +0.5 | 3345.56 | 3324.11 | 3322.26 | 2768.15 | 2.17 | 2.41 | 23.90 | 75.14 | 1200.88 |
| 44 Retailers, Food(16) | 2114.51 | +0.1 | 2112.98 | 2108.31 | 2098.84 | 1722.47 | 3.40 | 2.42 | 15.16 | 58.30 | 1314.38 |
| 45 Retailers, General(44) | 1803.03 | +0.1 | 1800.95 | 1792.97 | 1788.53 | 1603.05 | 3.25 | 2.17 | 17.72 | 41.76 | 1006.40 |
| 48 Support Services(37) | 1852.41 | +0.2 | 1848.72 | 1844.01 | 1835.97 | 1467.25 | 2.47 | 2.44 | 20.72 | 34.30 | 1159.16 |
| *49 Transport(20)* | *2237.22* | *+1.2* | *2209.69* | *2194.54* | *2178.10* | *2165.00* | *3.85* | *1.26* | *25.70* | *72.44* | *912.94* |
| 51 Other Services & Business(7) | 1219.30 | ...... | 1218.98 | 1223.27 | 1222.64 | 1251.89 | 4.17 | 1.73 | 17.34 | 38.30 | 1091.62 |
| 60 UTILITIES(37) | 2571.65 | -0.1 | 2575.11 | 2564.89 | 2529.42 | 2298.04 | 4.43 | 2.02 | 13.95 | 86.37 | 1046.77 |
| 62 Electricity(15) | 2781.94 | -0.4 | 2792.89 | 2777.81 | 2741.43 | 2379.13 | 3.99 | 2.96 | 10.59 | 116.18 | 1237.84 |
| 64 Gas Distribution(2) | 1750.43 | -0.2 | 1753.63 | 1764.33 | 1757.93 | 1959.63 | 6.85 | 0.66 | 28.14 | 68.63 | 851.34 |
| 66 Telecommunications(7) | 2153.22 | -0.2 | 2157.57 | 2159.79 | 2131.03 | 1907.26 | 3.81 | 1.71 | 19.21 | 51.48 | 957.71 |
| *68 Water(13)* | *2148.46* | *+0.6* | *2134.60* | *2079.46* | *2025.55* | *1766.06* | *5.34* | *2.75* | *8.53* | *85.07* | *1141.90* |
| 69 NON-FINANCIALS(656) | 1863.73 | +0.2 | 1860.76 | 1855.16 | 1841.10 | 1621.20 | 3.82 | 1.92 | 17.06 | 58.78 | 1376.90 |
| 70 FINANCIALS(113) | 2618.46 | +0.1 | 2615.76 | 2606.58 | 2579.98 | 2087.71 | 4.25 | 2.45 | 12.03 | 100.25 | 1091.97 |
| 71 Banks, Retail(9) | 3591.00 | +0.1 | 3587.52 | 3569.06 | 3531.91 | 2733.42 | 4.04 | 2.81 | 10.99 | 139.15 | 1132.11 |
| 72 Banks, Merchant(6) | 3632.82 | ...... | 3631.92 | 3633.19 | 3634.19 | 2562.02 | 2.55 | 2.76 | 17.80 | 83.86 | 1132.16 |
| *73 Insurance(25)* | 1315.83 | -0.1 | 1317.81 | 1319.00 | 1312.12 | 1182.59 | 5.60 | 2.68 | *8.31* | *63.99* | *957.84* |
| 74 Life Assurance(6) | 3041.89 | +0.1 | 3038.05 | 3037.04 | 2977.36 | 2271.71 | 4.59 | 1.53 | 17.76 | 136.72 | 1239.27 |
| 77 Other Financial(22) | 2353.51 | +0.9 | 2333.17 | 2318.97 | 2288.25 | 1782.30 | 3.75 | 1.92 | 17.32 | 61.68 | 1310.51 |
| 79 Property(45) | 1449.25 | -0.1 | 1450.90 | 1448.27 | 1447.75 | 1446.25 | 4.27 | 1.34 | 21.88 | 43.60 | 886.84 |
| 80 INVESTMENT TRUSTS(134) | 2934.52 | -0.2 | 2940.62 | 2942.03 | 2935.74 | 2736.73 | 2.22 | 1.07 | 52.56 | 51.66 | 1010.33 |
| 89 FT-SE-A ALL-SHARE(903) | 1741.28 | +0.1 | 1738.89 | 1733.73 | 1720.19 | 1497.44 | 3.83 | 2.00 | 16.33 | 56.00 | 1432.44 |
| FT-SE-A Fledgling | 1073.76 | -0.1 | 1074.33 | 1072.90 | 1073.79 | - | 2.83 | 1.19 | 37.01 | 24.32 | 1100.14 |
| FT-SE-A Fledgling ex Inv Trusts | 1070.16 | ...... | 1070.60 | 1068.79 | 1069.80 | - | 2.99 | 1.24 | 33.84 | 25.22 | 1097.54 |

### ■ Hourly movements

| | Open | 9.00 | 10.00 | 11.00 | 12.00 | 13.00 | 14.00 | 15.00 | 16.10 | High/day | Low/day |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FT-SE 100 | 3515.1 | 3521.6 | 3530.2 | 3524.9 | 3527.1 | 3526.2 | 3528.0 | 3527.4 | 3523.7 | 3531.6 | 3515.1 |
| FT-SE Mid 250 | 3956.2 | 3958.9 | 3963.4 | 3965.2 | 3966.8 | 3967.7 | 3965.1 | 3968.8 | 3968.8 | 3969.5 | 3956.1 |
| FT-SE-A 350 | 1756.7 | 1759.6 | 1763.3 | 1761.4 | 1762.4 | 1762.9 | 1762.9 | 1762.7 | 1761.3 | 1764.4 | 1756.7 |

Time of FT-SE 100 Day's high: 2.44pm Day's low: 8.30am . FT-SE 100 1995 High: 3670.6 (13/9) Low: 2954.2 (23/1).

### ■ FT-SE Actuaries 350 Industry baskets

| | Open | 9.00 | 10.00 | 11.00 | 12.00 | 13.00 | 14.00 | 15.00 | 16.10 | Close | Previous | Change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bldg & Cnstrcn | 924.9 | 924.7 | 924.9 | 925.1 | 925.1 | 925.3 | 925.3 | 925.3 | 925.6 | 925.6 | 924.7 | +0.9 |
| Pharmaceuticls | 4420.4 | 4421.7 | 4426.0 | 4427.5 | 4429.7 | 4423.8 | 4425.5 | 4422.7 | 4426.6 | 4424.1 | 4432.1 | -8.0 |
| Water | 2143.9 | 2143.0 | 2148.9 | 2150.5 | 2150.8 | 2147.5 | 2148.9 | 2147.2 | 2143.7 | 2145.1 | 2131.0 | +14.1 |
| Banks, Retail | 3626.4 | 3636.2 | 3638.6 | 3632.4 | 3638.1 | 3642.3 | 3644.1 | 3647.0 | 3636.9 | 3636.8 | 3633.3 | +3.5 |

Additional information on the FT-SE Actuaries Share Indices is published in Saturday issues. Lists of constituents are available from The Financial Times Limited, One Southwark Bridge, London SE1 9HL. The FT-SE Actuaries Share Indices Service, which covers a range of electronic and paper-based products relating to these indices, is available from FINSTAT, Fitzroy House, 13-17 Epworth Street, London EC2A 4DL.
The FT "500" has been renamed FT-SE-A Non-Financials Index. The FT-SE 100, the FT-SE Mid 250, FT-SE Actuaries 350 and the FT-SE Actuaries Industry baskets are calculated by the International Stock Exchange of the United Kingdom and Republic of Ireland and the FT-SE Actuaries All-Share Index is compiled by The Financial Times Limited, both in conjunction with the Institute of Actuaries and the Faculty of Actuaries under a standard set of ground rules. © The International Stock Exchange of the United Kingdom and Republic of Ireland Limited 1995. © The Financial Times Limited 1995. All rights reserved. "FT-SE" and "Footsie" are joint trade marks and service marks of the London Stock Exchange and The Financial Times Limited. The FT-SE Actuaries Share Indices are audited by The WM Company. † Sector P/E ratios greater than 80 and net covers greater than 30 are not shown. ‡ Values are negative.

## FUTURES AND OPTIONS

■ FT-SE 100 INDEX FUTURES (LIFFE) £25 per full index point (APT)

| | Open | Sett price | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | 3545.0 | 3545.0 | -13.0 | 3558.0 | 3541.0 | 7209 | 62192 |
| Mar | - | 3578.0 | -13.0 | - | - | 0 | 2293 |
| Jun | - | 3582.0 | -13.0 | - | - | 0 | 60 |

■ FT-SE MID 250 INDEX FUTURES (LIFFE) £10 per full index point

| | Open | Sett price | Change | High | Low | Est. vol | Open int. |
|---|---|---|---|---|---|---|---|
| Dec | - | 3995.0 | +10.0 | - | - | 0 | 3538 |

■ FT-SE 100 INDEX OPTION (LIFFE) (*3523) £10 per full index point

| | 3350 | | 3400 | | 3450 | | 3500 | | 3550 | | 3600 | | 3650 | | 3700 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | C | P | C | P | C | P | C | P | C | P | C | P | C | P | C | P |
| Oct | 175½ | 5 | 129½ | 7½ | 88½ | 13½ | 50 | 28 | 23½ | 53 | 8½ | 91½ | 3 | 140 | [illegible] | 190 |
| Nov | 197½ | 14 | 158 | 23 | 117½ | 35 | 83½ | 51½ | 56 | 75½ | 34 | 105 | 18 | 143½ | 9 | 190 |
| Dec | 218 | 26 | 180½ | 38 | 143 | 51 | 112½ | 71 | 83½ | 93 | 60½ | 121½ | 42½ | 156 | 27½ | 185 |
| Jan | | | 231 | 51 | | | 138½ | 86½ | | | 88 | 138 | | | 49½ | 206 |
| Jun† | | | 267 | 100½ | | | 204 | 136 | | | 153½ | 184 | | | 119 | 242½ |

Calls 1,345 Puts 2,216

■ EURO STYLE FT-SE 100 INDEX OPTION (LIFFE) £10 per full index point

| | 3325 | | 3375 | | 3425 | | 3475 | | 3525 | | 3575 | | 3625 | | 3675 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oct | 199½ | 3 | 152 | 5½ | 107 | 10 | 67 | 20½ | 37 | 40 | 18½ | 69½ | 6 | 108½ | 2 | 154 |
| Nov | 216 | 9 | 172½ | 14½ | 132 | 24 | 96½ | 38 | 68½ | 57½ | 42½ | 83 | 25 | 115 | 13½ | 153 |
| Dec | 241½ | 24½ | 198 | 31½ | 159½ | 41 | 124½ | 55½ | 93½ | 74 | 68½ | 96 | 45½ | 124 | 29½ | 157½ |
| Mar | 290½ | 45½ | | | 215½ | 67½ | | | 151½ | 100 | | | 99 | 144½ | | |
| Jun† | 314½ | 70½ | | | 247½ | 98½ | | | 190½ | 136½ | | | 142 | 183 | | |

Calls 961 Puts 270 * Underlying index value. Premiums shown are based on settlement prices.
† Long dated expiry months.

## TRADING VOLUME

### ■ Major Stocks Yesterday

| | Vol. 000s | Closing price | Day's change |
|---|---|---|---|
| 3i† | 385 | 405 | -½ |
| ASDA Group† | 6,000 | 104 | -½ |
| Abbey National† | 2,100 | 549 | +3 |
| Albert Fisher | 512 | 53 | |
| Allied Domecq† | 1,400 | 536 | -2 |
| Anglian Water | 1,700 | 593 | +4 |
| Argos | 315 | 499 | +6 |
| Argyll Group† | 2,500 | 335½ | +½ |
| Arjo Wiggins† | 787 | 247 | +1 |
| Assoc. Brit. Foods† | 167 | 689 | +2 |
| Assoc. Brit. Ports | 989 | 316 | -1 |
| BAA† | 1,200 | 503 | +1 |
| BAT Inds.† | 7,000 | 529 | |
| BET | 715 | 134 | |
| BICC | 3,800 | 296 | -6 |
| BOC† | 2,900 | 819 | +19 |
| BP† | 6,700 | 476½ | +1½ |
| BPB Inds. | 455 | 320 | +2 |
| BSkyB† | 14,000 | 406 | +10 |
| BT† | 20,000 | 395 | -1½ |
| BTR† | 3,400 | 328 | -1 |
| Bank of Scotland† | 2,900 | 247 | |
| Barclays† | 6,500 | 747 | -3 |
| Bass† | 1,400 | 649 | +6 |
| Blue Circle† | 3,400 | 309½ | +½ |
| Booker | 220 | 393 | +1 |
| Boots† | 1,900 | 583 | +5 |
| Brit. Aerospace† | 3,300 | 747 | +9½ |
| British Airways† | 13,000 | 472 | +20 |
| British Gas† | 18,000 | 263½ | -½ |
| British Land | 379 | 418 | -2 |
| British Steel† | 4,800 | 184¼ | +1¾ |
| Bunzl | 1,100 | 208 | |
| Burmah Castrol† | 525 | 984 | +4 |
| Burton | 2,300 | 110½ | +1 |
| Cable & Wire† | 8,200 | 420 | -2 |
| Cadbury Schweppes† | 1,500 | 490 | -3 |
| Caradon | 1,200 | 212 | -1 |
| Carlton Comms.† | 827 | 1025 | -8 |
| Coats Viyella | 1,500 | 204 | +3 |
| Comm. Union† | 1,100 | 587 | -3 |
| Compass | 1,500 | 441 | +17 |
| Cookson† | 377 | 282 | -1 |
| Courtaulds† | 2,400 | 400 | +3 |
| Dalgety | 119 | 443 | -1 |
| De La Rue† | 286 | 917 | +7 |
| Dixons | 4,200 | 368½ | +15½ |
| East Midland Elect. | 1,500 | 876 | +16 |
| Electrocomps | 780 | 329 | +4 |
| Eng China Clays | 2,200 | 364 | -3 |
| Enterprise Oil† | 1,900 | 357 | +1 |
| Eurotunnel Units | 485 | 97 | +1 |
| FKI | 3,600 | 169 | -2 |
| Fisons† | 949 | 257 | |
| Foreign & Col. I.T. | 392 | 148½ | -½ |
| Forte† | 2,300 | 246 | -2 |
| Gen. Accident† | 1,100 | 609 | -8 |
| General Elect.† | 27,000 | 329 | +12 |
| Glaxo Wellcome† | 3,300 | 767 | -1 |
| Glynwed | 1,000 | 365 | +2 |
| Granada† | 5,000 | 647 | +7 |
| Grand Met.† | 8,500 | 440 | |
| GUS† | 1,900 | 606 | +1 |
| GRE† | 1,500 | 218 | +2 |
| GKN† | 923 | 817 | -10 |
| Guinness† | 4,600 | 521 | +1 |
| HSBC (75p shs)† | 7,300 | 906 | |
| *Hammerson* | 438 | 356 | +1 |
| Hanson† | 13,000 | 199½ | -4½ |
| Harrisons Crosfield | 3,400 | 152 | -1 |
| Hays | 445 | 349½ | +1½ |
| Hillsdown | 1,200 | 175 | |
| IMI | 711 | 333 | +1 |
| ICI† | 2,000 | 820 | +12 |
| Inchcape† | 2,500 | 324 | -4 |
| Johnson Matthey | 178 | 584 | -3 |
| Kingfisher† | 2,200 | 500 | -3 |
| Kwik Save | 316 | 680 | +17 |
| Ladbroke† | 1,600 | 171 | |
| Land Securities† | 948 | 617 | -2 |
| Laporte | 299 | 812 | +11 |
| Legal & General† | 1,400 | 602 | +2 |
| Lloyds Abbey | 168 | 449 | |
| *Lloyds Bank†* | *1,700* | *683* | -3 |
| LASMO† | 5,200 | 168 | |
| London Elect. | 2,800 | 897 | -23 |
| Lonrho | 909 | 184 | -1½ |
| Lucas | 5,100 | 201 | +6 |
| MEPC | 109 | 393 | -1 |
| MFI | 1,200 | 157 | +2 |
| Manweb | 2,500 | 992 | |
| *Marks & Spencer†* | *6,600* | *429½* | *-3½* |
| Mercury Asset Man | 875 | 916 | +16 |
| Midlands Elect.† | 182 | 984 | -1 |
| Morrison (Wm.) | 342 | 157 | |
| NFC | 1,200 | 150 | +1 |
| NatWest Bank† | 6,700 | 626 | +1 |
| National Power† | 4,500 | 501 | -2½ |
| Next | 4,200 | 408 | |
| North West Water† | 1,300 | 591 | -1 |
| Northern Elect. | 1,100 | 785 | +3 |
| Northern Foods | 2,500 | 182 | -1 |
| Norweb | 970 | 1087 | +5 |
| Pearson† | 2,500 | 607 | +10 |
| P & O† | 1,200 | 480 | +2 |
| Pilkington | 4,500 | 202 | +1 |
| PowerGen† | 5,300 | 554 | -6 |
| Prudential† | 4,900 | 378 | +1 |
| REXAM† | 603 | 402 | -2 |
| RMC† | 2,600 | 1098 | +4 |
| RTZ† | 1,600 | 939 | -3 |
| Racal | 300 | 270 | -1 |
| Rank Org.† | 1,000 | 422 | -2 |
| Reckitt & Colman† | 973 | 650 | -4 |
| Redland† | 1,100 | 381 | +2 |
| *Reed Intl.†* | *4,600* | *863* | +5 |
| Rentokil† | 650 | 319½ | -½ |
| Reuters† | 2,400 | 561 | -4 |
| Rolls Royce† | 6,400 | 178 | +3 |
| Ryl Bk Scotland† | 1,400 | 459 | +6 |
| Royal Insurance† | 927 | 357 | +1 |
| Sainsbury† | 1,700 | 433½ | -1½ |
| Schroders† | 381 | 1353 | -2 |
| Scottish & New.† | 420 | 607 | +6 |
| Scot. Hydro-Elect. | 433 | 339 | -4 |
| Scottish Power† | 995 | 346½ | -2½ |
| Sears† | 2,800 | 110½ | +½ |
| Sedgwick | 2,400 | 113 | +4 |
| Seeboard | 1,600 | 493 | -2 |
| Severn Trent† | 1,800 | 659 | +10 |
| Shell Transport† | 13,000 | 748 | +4 |
| Siebe† | 429 | 725 | +1 |
| Slough Ests | 768 | 215 | |
| Smith (W.H.) | 589 | 368 | -½ |
| Smith & Nephew† | 2,700 | 192 | +3 |
| SmKl Beecham† | 2,900 | 645½ | +1½ |
| SmKl Beecham Uts.† | 7,000 | 633½ | +1½ |
| Smiths Inds. | 376 | 589 | +7 |
| Southern Elect.† | 2,300 | 984 | -2 |
| South Wales Elect. | 593 | 925 | +3 |
| *South West Water* | *994* | *543* | +7 |
| Southern Water | 745 | 720 | +18 |
| Standard Chartd.† | 4,500 | 459 | +3 |
| Storehouse | 781 | 302 | +2 |
| Sun Alliance† | 249 | 358 | -1 |
| T&N | 1,400 | 178 | -1 |
| TI Group† | 1,200 | 442 | -3 |
| TSB† | 1,700 | 279 | +1 |
| Tarmac | 1,300 | 92 | |
| Tate & Lyle† | 674 | 448 | -5 |
| Taylor Woodrow | 164 | 106 | |
| TeleWest | 2,800 | 193 | +1½ |
| Tesco† | 2,500 | 316 | +½ |
| Thames Water† | 816 | 552 | +3 |
| Thorn EMI† | 2,300 | 1484 | -1 |
| Tomkins† | 1,900 | 249 | -3½ |
| Trafalgar House | 2,800 | 28½ | +1 |
| Unigate | 184 | 423 | -1 |
| Unilever† | 626 | 1257 | -3 |
| United Biscuits | 899 | 279 | |
| Utd. News & Media | 193 | 529 | +2 |
| Vodafone† | 13,000 | 262½ | +1 |
| Welsh Water | 182 | 783 | -4 |
| Wessex Water | 333 | 348 | -8 |
| Whitbread† | 1,600 | 628 | +10 |
| Williams Hldgs.† | 828 | 329 | -1 |
| Willis Corroon | 292 | 122 | +1 |
| Wimpey | 465 | 109 | |
| Wolseley† | 788 | 387 | -2 |
| Yorkshire Elect. | 1,900 | 897 | +6 |
| Yorkshire Water | 1,600 | 660 | +2 |
| Zeneca† | 715 | 1166 | -10 |

Based on trading volume for a selection of major securities dealt through the SEAQ system yesterday until 4.30pm. † Indicates an FT-SE 100 index constituent. All trades are rounded.

**OPEN LETTER**
**TO THE E.U. MINISTERS**
**OF THE ENVIRONMENT**

On July 12, Safety Hi-Tech wrote an open letter to European Commission President, Mr J. Santer, to denounce the unfair exclusion from the European market of an Italian product which can be used to replace Halons in almost all fire-fighting applications (this product has been accepted for this purpose by Australian, Canadian and US Environmental *Authorities). The product is a blend of HCFCs and* reduces the environmental damage to the ozone layer by a factor of 400 compared to Halons.

During the 84 days which have elapsed since July 12, in Europe only, more than 7000 "equivalent ODP" tonnes of Halons have been released into the atmosphere. If it had been allowed to replace Halons with the Italian HCFCs blend, the equivalent emitted ODP tonnes would have been slightly in excess of 20.

Safety Hi-Tech defends its right to compete in the market being aware that environmental integrity is an essential interest of the community and has proposed an environmental solution, internationally accepted, which is definitely more favourable than that included in the EU Regulation 3093/94 (also in terms of Global Warming Potential and Atmospheric Lifetime) which authorises the continued use of Halons without restrictions.

Very strong multinational interests, with a highly sophisticated lobbying activity, are trying to eliminate Safety Hi-Tech with a tough battle which has nothing to share with ecology, in order to consolidate an almost monopolistic position that they are willing to have worldwide.

For these reasons Safety Hi-Tech has appealed to an Italian Court and the judge, who has considered well-founded this request, has decided to ask the European Court of Justice, in accordance to art. 177 of the Treaty of Rome, to decide on the EU Regulation 3093/94 as far as its legitimacy and applicability are concerned. This decision should be based on the disparity of treatment of HCFCs blend and that of more dangerous and harmful agents.

We do hope that *the EU Ministers of the Environment*, by applying the established procedures, will amend as soon as possible the EU Regulation 3093/94 to restore a situation of fairness in favour of the environment and *in compliance with market regulation of the European* Union.

**Safety Hi-Tech S.r.l.**

**Rome, Italy**

PT. INTI INDORAYON UTAMA
NOTICE TO SHAREHOLDERS

Refund of withholding tax on
first and final dividend paid on August 21, 1995

The above mentioned dividend was paid to Indonesian individual and foreign shareholders net of withholding tax of 15% and 20% respectively. Since the tax facilities granted to the Company were *valid through March 31st, 1994, no tax is payable on the dividends.*

The Company has refunded the tax deducted on dividends to shareholders on September 29th 1995. The cheque for the refund was delivered to the address of the shareholder, which can be cashed at any UNIBANK branch in Indonesia. For those shareholders who have elected for their dividends to be paid via transfer, the refunds were credited to their accounts.

For further clarification, kindly contact:

PT. SIRCA DATAPRO PERDANA
Stock Administration Bureau
Jl. Johar No. 18, Menteng
Jakarta 10340
INDONESIA

By order of the Board
PT.INTI INDORAYON
UTAMA
Dated October 4th, 1995

A PRIME SITE FOR YOUR
COMMERCIAL PROPERTY
ADVERTISING
*Advertise your property to approximately 1 million FT readers in 160 countries.*
For details:
Call Sophie Cantillon
on +44 (0)171 873 3211
Courtney Anderson
on +44 (0)171 873 3252
or Fax: +44 (0)171 873 3098

The Republic of Venezuela
£37,143,500
Front Loaded Interest Reduction
Bonds due 2007
STG Interest Reduction Series
In accordance with the provisions of the Bonds, notice is hereby given that for the Interest Period from September 29, 1995 to March 29, 1996 the Bonds will carry an Interest Rate of 7.9375% per annum. The interest payable on the relevant interest payment date, March 29, 1996 will be £20.06 per £500 principal amount.
By: The Chase Manhattan Bank, N.A.
Agent Bank
October 4, 1995

KNIGHT-RIDDER'S FUTURES MARKET DATAKIT FOR ONLY $695
[illegible]
$1295 worth of data and software for just $695 plus postage and packing.
[illegible]

SEND US YOUR
OWN PAPERCLIP
And while you are at it, please attach your
cheque to fund more Macmillan Nurses
*in the fight against cancer.*
(Did you know over one million people
are living with it?)
Cheque amount £............ made out to 'CRMF (F1)'
Send to:
CRMF FREEPOST LONDON SW3 3BR
THE
Macmillan
APPEAL
Cancer Relief Macmillan Fund exists to support
people with cancer and their families.
Regd. Charity No. 261017

هكذا من الأصل

هكذا من الأجل

# WORLD STOCK MARKETS

## EUROPE

### AUSTRIA (Oct 3 / Sch)

### BELGIUM/LUXEMBOURG (Oct 3 / Frs.)

### CZECH REP (Oct 3 / Koruna)

### DENMARK (Oct 3 / Kr)

### FINLAND (Oct 3 / Mkk)

### FRANCE (Oct 3 / Frs.)

### GERMANY (Oct 3 / Dm.)

### GREECE (Oct 3 / Drachma)

### ITALY (Oct 3 / Lire)

### NETHERLANDS (Oct 3 / Fls.)

### NORWAY (Oct 3 / Kroner)

### POLAND (Oct 3 / Zloty)

| | | +/- | High | Low | Yld | P/E |
|---|---|---|---|---|---|---|
| Elktrm | 9 | ... | 11 | 7.05 | 1.7 | ... |
| Exbud | 28.80 | -.80 | 32 | 10.80 | — | ... |
| Mostal | 8.80 | +.06 | 8.80 | 5.90 | ... | ... |
| Wedel | 118.50 | -2.50 | 165 | 110 | 1.0 | — |
| Wlczok | 22.80 | -.20 | 33 | 20.20 | 1.3 | ... |
| Zywiec | 189 | +2 | 213 | 127.50 | 1.0 | ... |

### PORTUGAL (Oct 3 / Escudo)

| | | +/- | High | Low | Yld | P/E |
|---|---|---|---|---|---|---|
| BCO PI | 2,230 | +30 | 2,785 | 2,060 | 4.5 | ... |
| BCPort | 2,075 | +30 | 2,130 | 1,831 | 2.9 | ... |
| BESact | 2,100 | +50 | 2,595 | 1,966 | 7.1 | ... |
| BancTA | 2,695 | +33 | 3,274 | 2,628 | 7.4 | ... |
| MocCrc | 3,880 | -130 | 4,340 | 3,317 | 9.3 | ... |
| MocSpr | 5,160 | ... | 5,300 | 4,500 | 2.1 | ... |
| PTelcm | 2,900 | -20 | 3,010 | 2,700 | — | ... |
| Sonae | 3,575 | +26 | 3,820 | 3,181 | 4.2 | ... |
| Unicer | 2,472 | -12 | 2,630 | 1,991 | 3.4 | ... |

### SPAIN (Oct 3 / Pts.)

### SWEDEN (Oct 3 / Kronor)

### SWITZERLAND (Oct 3 / Frs.)

### TURKEY (Oct 3 / Tk Lira)

| | | +/- | High | Low | Yld | P/E |
|---|---|---|---|---|---|---|
| Akbank | 12,750 | +500 | 13,000 | 9,200 | 2.0 | ... |
| ArckAS | 9,000 | +700 | 9,671 | 7,000 | 1.1 | ... |
| CukEr | 13,750 | +250 | 27,000 | 7,700 | 0.7 | ... |
| EgeBir | 18,500 | ... | 25,000 | 10,250 | ... | ... |
| KOKHd | 9,900 | +500 | 45,500 | 8,800 | 6.9 | ... |
| Petkim | 34,500 | +1,000 | 45,000 | 16,000 | ... | ... |
| TGaBan | 7,000 | -50 | 15,250 | 3,550 | ... | ... |
| TofaOF | 7,703 | +100 | 16,250 | 5,300 | ... | ... |
| TurkHY | 13,750 | -500 | 14,250 | 7,100 | ... | ... |
| TurkIB | 44,500 | -500 | 60,000 | 18,750 | ... | ... |

From outer space
to the
factory floor
Rockwell
leads the way

Rockwell

AUTOMATION • AVIONICS • TELECOMMUNICATIONS
DEFENSE ELECTRONICS • AEROSPACE • AUTOMOTIVE • GRAPHIC SYSTEMS

## PACIFIC

### JAPAN (Oct 3 / Yen)

### AUSTRALIA (Oct 3 / Aust$)

### HONG KONG (Oct 3 / H.K.$)

### INDONESIA (Oct 3 / Rupiah)

### MALAYSIA (Oct 3 / MYR)

### NEW ZEALAND (Oct 3 / NZ $)

### SINGAPORE (Oct 3 / S$)

### SOUTH KOREA (Oct 2 / Won)

| | | +/- | High | Low | Yld | P/E |
|---|---|---|---|---|---|---|
| HyEngC | 39,800 | ... | 42,800 | 29,821 | 0.1 | — |
| KorEP | 28,900 | ... | 31,800 | 23,300 | 1.7 | — |
| KFstBk | 8,280 | ... | 10,800 | 6,850 | ... | ... |
| KMTele | 500,000 | ... | 512,000 | 365,000 | ... | ... |
| LG Ele | 25,500 | ... | 33,459 | 22,200 | ... | ... |
| PohgSt | 65,900 | ... | 76,000 | 53,900 | 1.0 | ... |
| SamEc | 163,000 | ... | 173,000 | 77,159 | 0.2 | ... |
| SamgHv | 24,000 | ... | 32,500 | 19,500 | 2.1 | ... |
| Yukong | 30,700 | ... | 35,353 | 26,000 | 1.6 | ... |

### TAIWAN (Oct 3 / TW $)

| | | +/- | High | Low | Yld | P/E |
|---|---|---|---|---|---|---|
| Ct. Ins | 120 | ... | 189 | 107 | 1.2 | — |
| CH Bnk | 93 | -1 | 198 | 84.50 | ... | — |
| ChiDev | 79 | -1 | 95.25 | 68.50 | ... | — |
| ChiStl | 21.30 | -.10 | 33.50 | 20.20 | 1.0 | — |
| FrstBk | 93.50 | -.50 | 189 | 84 | ... | — |
| NYPstc | 45.70 | +.20 | 58.25 | 43.20 | 2.5 | — |
| SHK Li | 68 | ... | 99.25 | 57.50 | 2.2 | — |
| TaiScd | 96 | -.50 | 125 | 55.50 | ... | — |

### THAILAND (Oct 3 / Baht)

| | | +/- | High | Low | Yld | P/E |
|---|---|---|---|---|---|---|
| Advlnf | 400 | -4 | 412 | 284 | ... | — |
| BgkBnk | 286 | +4 | 308 | 189 | ... | — |
| BgkLnd | 36.50 | ... | 82.50 | 26.50 | 1.3 | — |
| DhStam | 125 | +3 | 200 | 75.50 | ... | — |
| FinOne | 139 | +2 | 178 | 99 | 2.5 | — |
| KrThBk | 103xd | -2 | 111 | 66.50 | ... | — |
| LndHou | 402 | +8 | 558 | 300 | 1.2 | — |
| PhThan | 187 | +2 | 254 | 138 | ... | — |
| SiamCm | 1,450 | ... | 1,768 | 1,240 | ... | — |
| SiamCi | 418 | +8 | 446 | 328 | ... | — |
| SiamCB | 280 | +2 | 294 | 181 | ... | — |
| TeleAs | 75 | +1 | 99 | 68 | ... | — |
| ThaiFm | 220 | +2 | 280 | 173 | 3.0 | — |

## NORTH AMERICA

### CANADA

### TORONTO (Oct 3 / Can $)

4 pm close

### MONTREAL (Oct 3 / Can $)

4 pm close

## AFRICA

### SOUTH AFRICA (Oct 3 / Rand)

## INDICES

| | Oct 3 | Oct 2 | Sep 29 | 1995 High | 1995 Low |
|---|---|---|---|---|---|
| **Argentina** | | | | | |
| General (29/12/77) | (u) | 14056.41 | 14117.71 | 18531.10 2/1 | 9831.09 9/3 |
| **Australia** | | | | | |
| All Ordinaries(1/1/80) | 2132.0 | 2137.7 | 2135.7 | 2186.09 19/9 | 1823.30 8/2 |
| All Mining(1/1/80) | 976.0 | 978.6 | 978.6 | 1029.50 7/8 | 795.30 8/2 |
| **Austria** | | | | | |
| Credit Aktien(30/12/84) | 357.18 | 361.01 | 361.83 | 395.42 2/1 | 350.32 30/3 |
| Traded Index(2/1/91) | 989.21 | 976.44 | 977.59 | 1058.31 2/1 | 934.83 30/3 |
| **Belgium** | | | | | |
| BEL20 (1/1/91) | 1461.94 | 1464.30 | 1461.66 | 1491.39 2/8 | 1271.53 9/3 |
| **Brazil** | | | | | |
| Bovespa (29/12/83) | (u) | 45380.0 | 46701.0 | 48612.60 19/9 | 4531.50 8/9 |
| **Canada** | | | | | |
| Metals & Minls♦(1975) | (u) | 4795.88 | 4858.92 | 5252.77 21/8 | 3808.83 1/3 |
| Composite♦ (1975) | (u) | 4494.90 | 4529.80 | 4710.30 12/7 | 3991.41 30/1 |
| Portfolio$$ (4/1/83) | (u) | 2187.43 | 2213.58 | 2307.81 12/7 | 1983.38 30/1 |
| **Chile** | | | | | |
| IPSA Gen♥(31/12/80) | (u) | 5811.6 | 5817.6 | 6363.10 11/7 | 4576.90 9/3 |
| **Denmark** | | | | | |
| Copenhagen SE(3/1/83) | 362.24 | 363.00 | 362.60 | 375.44 25/8 | 330.01 29/3 |
| **Finland** | | | | | |
| HEX General(28/12/90) | 2140.59 | 2191.83 | 2186.87 | 2332.22 14/9 | 1655.38 29/3 |
| **France** | | | | | |
| SBF 250 (31/12/90) | 1207.72 | 1197.09 | 1198.64 | 1322.30 12/5 | 1154.41 13/3 |
| CAC 40(31/12/87) | 1800.70 | 1780.71 | 1788.35 | 2017.27 12/5 | 1721.80 13/3 |
| **Germany** | | | | | |
| FAZ Aktien(31/12/58) | (c) | 807.47 | 803.27 | 848.76 19/9 | 706.87 30/3 |
| Commerzbank(1/12/53) | (c) | 2315.3 | 2303.8 | 2427.80 19/9 | 2018.70 30/3 |
| DAX (30/12/87)‡ | (c) | 2205.02 | 2187.04 | 2317.01 15/9 | 1910.98 28/3 |
| **Greece** | | | | | |
| Athens SE(31/12/80) | 924.75 | 940.14 | 949.95 | 992.59 4/8 | 787.15 16/3 |
| **Hong Kong** | | | | | |
| Hang Seng(31/7/64) | 9805.46 | 9724.98 | 9646.34 | 9805.46 3/10 | 6967.93 23/1 |
| **India** | | | | | |
| BSE Sens.♥(1979) | (c) | (c) | 3493.21 | 3932.09 2/1 | 3015.07 2/5 |
| **Indonesia** | | | | | |
| Jakarta Comp.(10/8/82) | 487.80 | 490.56 | 493.24 | 519.18 11/8 | 414.21 19/4 |
| **Ireland** | | | | | |
| ISEQ Overall(4/1/88) | 2142.76 | 2138.05 | 2144.60 | 2170.73 15/9 | 1813.59 29/1 |
| **Italy** | | | | | |
| Banca Comm Ital (1972) | 612.36 | 616.56 | 617.39 | 680.64 10/2 | 587.98 23/3 |
| MIB General (2/1/85) | 967.0 | 974.0 | 975.0 | 1076.00 10/2 | 929.00 23/3 |
| **Japan** | | | | | |
| Nikkei 225 (16/5/49) | 18142.99 | 17739.84 | 17913.06 | 19684.04 4/1 | 14485.41 3/7 |
| Nikkei 300 (1/10/82) | 271.12 | 266.45 | 269.72 | 286.18 4/1 | 222.26 13/6 |
| Topix (4/1/68) | 1444.46 | 1422.07 | 1438.16 | 1553.40 4/1 | 1193.18 13/6 |
| 2nd Section (4/1/68) | 1874.25 | 1865.59 | 1872.34 | 2130.88 4/1 | 1441.90 13/6 |
| **Malaysia** | | | | | |
| KLSE Comp.(4/4/86) | 977.24 | 984.12 | 1000.50 | 1086.04 5/6 | 846.87 24/1 |
| **Mexico** | | | | | |
| IPC (Nov 1978) | (u) | 2291.98 | 2392.26 | 2622.21 8/8 | 1447.52 27/2 |
| **Netherland** | | | | | |
| CBS TRtnGen(End 83) | 503.2 | 503.9 | 505.0 | 511.80 19/9 | 422.90 23/3 |
| CBS All Shr (End 83) | 305.0 | 305.4 | 306.1 | 311.10 15/9 | 285.20 23/3 |
| **New Zealand** | | | | | |
| Cap. 40 (1/7/86) | 2116.59 | 2107.43 | 2112.77 | 2155.79 18/5 | 1901.43 5/1 |
| **Norway** | | | | | |
| Oslo SE(Ind)(2/1/83) | 1264.36 | 1271.74† | 1269.93 | 1291.58 19/9 | 1036.08 10/3 |
| **Philippines** | | | | | |
| Manila Comp (2/1/85) | 2617.68 | 2629.21 | 2629.25 | 2998.12 10/7 | 2248.39 27/3 |
| **Portugal** | | | | | |
| BTA (1977) | 2829.9 | 2821.4 | 2806.2 | 2911.60 9/1 | 2580.70 25/9 |
| **Singapore** | | | | | |
| SES All-S'pore(2/4/75) | 517.85 | 518.24 | 517.07 | 535.06 5/1 | 472.80 23/1 |
| **South Africa** | | | | | |
| JSE Gold (28/9/78) | 1488.6♥ | 1503.8 | 1513.7 | 2023.00 2/1 | 1317.29 19/5 |
| JSE Ind. (28/9/78) | 7095.5♥ | 7098.2 | 7113.2 | 7113.20 2/10 | 6222.80 31/1 |
| **South Korea** | | | | | |
| KoreaCompEx(4/1/80)** | (c) | 975.79 | 987.06 | 1027.37 2/1 | 847.09 27/5 |
| **Spain** | | | | | |
| Madrid SE (30/12/85) | 302.48 | 304.39 | 305.84 | 318.98 13/9 | 293.30 28/6 |
| **Sweden** | | | | | |
| AffarsvarldenGen (1/2/37) | 1824.5 | 1834.5 | 1842.3 | 1872.10 19/9 | 1499.88 29/3 |
| **Switzerland** | | | | | |
| Swiss Bk Ind (31/12/58) | 1415.87 | 1410.09† | 1402.12 | 1423.87 19/9 | 1174.69 13/3 |
| SBC General (1/4/87) | 1055.64 | 1052.52 | 1045.73 | 1055.64 3/10 | 870.58 13/3 |
| **Taiwan** | | | | | |
| WeightedPr.(30/6/66)** | 5035.79 | 5045.82 | 5013.43 | 7051.49 5/1 | 4503.37 14/8 |
| **Thailand** | | | | | |
| Bangkok SET (30/4/75) | 1288.32 | 1289.96 | 1294.23 | 1472.04 10/7 | 1136.69 16/3 |
| **Turkey** | | | | | |
| Istanbul Comp.(Jan 1986) | 43246.0 | 42968.7 | 41707.6 | 54653.90 21/4 | 34844.31 23/1 |
| **WORLD** | | | | | |
| MS Capital Int (1/1/70)$ | (u) | 698.1* | 703.8 | 704.80 29/9 | 586.21 23/1 |
| **CROSS-BORDER** | | | | | |
| Eurotrack 100(26/10/90) | 1421.48 | 1423.05 | 1412.87 | 1480.88 15/9 | 1222.41 13/3 |
| Euro Top-100 (26/6/90) | 1285.64 | 1284.52† | 1282.90 | 1318.69 15/9 | 1117.34 9/3 |
| JCapelDrgns (31/12/88) | (u) | 332.50 | 333.26 | 349.47 14/7 | 282.07 23/1 |
| Barings Emerg.(7/1/92) | 145.25 | 147.06 | 146.98 | 188.07 2/1 | 117.15 10/3 |

** Sat Sep 30: Taiwan Weighted Price 5033.06; Korea Comp Ex 982.65. Base values of all indices are 100 except: Australia All Ordinary and Mining – 500; Austria Traded, BEL20, HEX Gen., MIB Gen., SBF250, CAC40, Euro Top-100, ISEQ Overall; Toronto Comp./Metals & Minerals and DAX – all 1,000; JSE Gold – 255.7, JSE 20 Industrials – 264.3; NYSE All Common – 50 and Standard and Poor's – 10. $$ Montreal. ♦ Toronto. (c) Closed. (u) Unavailable. ‡ IBIS/DAX after-hours index: Oct 2 - 2197.01

† Correction. * Calculated at 15.00 GMT. ● Excluding bonds. ‡ Industrial, plus Utilities, Financial and Transportation. ♦ The DJ Ind. index theoretical day's highs and lows are the averages of the highest and lowest prices reached during the day by each stock; whereas the actual day's highs and lows (supplied by Telekurs) represent the highest and lowest values that the index has reached during the day. (The figures in brackets are previous day's). ♥ Subject to official recalculation.

## INDEX FUTURES

| | Open | Sett Price | Change | High | Low | Est. vol. | Open int. |
|---|---|---|---|---|---|---|---|
| **CAC-40 (200 x Index)** | | | | | | | |
| Oct | 1778.0 | 1811.0 | +23.0 | 1814.0 | 1776.0 | 15,090 | 30,028 |
| Nov | 1795.5 | 1819.5 | +23.0 | 1816.5 | 1795.5 | 129 | 2,847 |
| **DAX (closed 3/10/95)** | | | | | | | |
| Dec | 2221.0 | 2215.0 | -2.00 | 2230.0 | 2208.0 | 11,342 | 73,462 |
| Mar | 2246.5 | 2235.0 | -4.50 | 2245.5 | 2230.5 | 232 | 1,930 |
| **OMX** | | | | | | | |
| Oct | 1452.00 | 1453.00 | -8.00 | 1456.00 | 1447.00 | 3,762 | 16,807 |
| Nov | 1463.00 | 1464.50 | -17.00 | 1464.50 | 1457.50 | 200 | 1,120 |
| **SOFFEX** | | | | | | | |
| Oct | 3030.0 | 3046.5 | +6.70 | 3058.0 | 3030.0 | 4,312 | 16,017 |
| Nov | 3036.0 | 3052.7 | -6.00 | 3036.0 | 3036.0 | 8 | 263 |

| | Open | Latest | Change | High | Low | Est. vol. | Open int. |
|---|---|---|---|---|---|---|---|
| **S&P 500** | | | | | | | |
| Dec | 584.85 | 588.00 | +0.95 | 588.00 | 584.25 | 74,758 | 182,280 |
| Mar | 590.30 | 590.85 | +1.00 | 590.85 | 590.00 | 1,469 | 7,244 |
| **Nikkei 225** | | | | | | | |
| Dec | 17780.0 | 18180.0 | +480.0 | 18200.0 | 17750.0 | 20,125 | 150,554 |
| Mar | - | - | - | - | - | - | 4,761 |

Open interest figures for previous day.

## US INDICES

| Dow Jones | Oct 2 | Sep 29 | Sep 28 | 1995 High | 1995 Low | Since compilation High | Since compilation Low |
|---|---|---|---|---|---|---|---|
| Industrials | 4761.26 | 4789.08 | 4787.64 | 4801.80 (14/9) | 3832.08 (30/1) | 4801.80 (14/9/95) | 41.22 (2/7/32) |
| Home Bonds | 103.15 | 103.09 | 103.13 | 103.75 (13/7) | 93.63 (3/1) | 108.77 (18/10/93) | 54.99 (1/10/81) |
| Transport | 1954.02 | 1954.25 | 1950.80 | 2080.39 (18/9) | 1473.19 (3/1) | 2080.39 (18/9/95) | 12.32 (8/7/32) |
| Utilities | 215.40 | 214.28 | 214.74 | 215.40 (2/10) | 183.03 (3/1) | 256.46 (31/8/93) | 10.50 (8/4/32) |

DJ Ind. Day's high 4817.98 (4834.96 ) Low 4732.72 (4757.65 ) (Theoretical♦)
Day's high 4789.80 (4816.54 ) Low 4748.98 (4781.86 ) (Actual♦)

| Standard and Poors | Oct 2 | Sep 29 | Sep 28 | 1995 High | 1995 Low | Since compilation High | Since compilation Low |
|---|---|---|---|---|---|---|---|
| Composite ‡ | 581.72 | 584.41 | 585.87 | 586.77 (20/9) | 459.11 (3/1) | 586.77 (20/9/95) | 4.40 (1/6/32) |
| Industrials♥ | 682.76 | 686.52 | 689.12 | 691.27 (20/9) | 546.28 (3/1) | 691.27 (20/9/95) | 3.62 (21/6/32) |
| Financial | 59.09 | 59.33 | 59.29 | 59.33 (29/9) | 41.64 (3/1) | 59.33 (29/9/95) | 8.64 (1/10/74) |
| NYSE Comp. | 312.08 | 313.28 | 313.29 | 314.33 (20/9) | 250.73 (3/1) | 314.33 (20/9/95) | 4.46 (25/4/42) |
| Amex Mkt Val | 540.60 | 544.72 | 544.28 | 553.68 (12/9) | 433.12 (6/1) | 553.68 (12/9/95) | 29.31 (9/12/72) |
| NASDAQ Cmp | 1027.59 | 1043.54 | 1047.06 | 1067.40 (13/9) | 743.58 (3/1) | 1067.40 (13/9/95) | 54.87 (31/10/72) |

## RATIOS

| | Sep 29 | Sep 22 | Sep 15 | Year ago |
|---|---|---|---|---|
| Dow Jones Ind. Div. Yield | 2.42 | 2.42 | 2.40 | 2.76 |
| | Sep 27 | Sep 20 | Sep 13 | Year ago |
| S & P Ind. Div. yield | 2.07 | 2.05 | 2.07 | 2.39 |
| S & P Ind. P/E ratio | 17.94 | 18.14 | 17.95 | 20.79 |

## NEW YORK ACTIVE STOCKS

| Monday | Stocks traded | Close price | Change on day |
|---|---|---|---|
| Micron | 6,239,500 | 76⅝ | -2⅞ |
| Merck | 3,922,900 | 57 | +1 |
| McDonalds | 3,871,700 | 38 | -⅛ |
| AT&T | 3,605,600 | 64¾ | -1 |
| WalMart | 2,880,300 | 24¾ | -⅛ |
| Telefonos | 2,870,200 | 30 | -1⅞ |
| Countrywide | 2,547,600 | 23⅝ | +⅝ |
| WMX Tech | 2,495,400 | 27⅞ | -⅛ |
| IBM | 2,369,300 | 93¾ | -1 |
| Tmo Gas Del | 2,011,900 | 10⅝ | -⅛ |

## TRADING ACTIVITY

● Volume (million)

| | Oct 2 | Sep 29 | Sep 28 |
|---|---|---|---|
| New York SE | 304.898 | 335.218 | 387.613 |
| Amex | 16.388 | 21.331 | 22.652 |
| NASDAQ | 403.608 | 474.719 | 459.901 |
| **NYSE** | | | |
| Issues Traded | 3,016 | 3,016 | 2,999 |
| Rises | 938 | 1,445 | 1,446 |
| Falls | 1,340 | 771 | 784 |
| Unchanged | 738 | 800 | 769 |
| New Highs | 122 | 170 | 134 |
| New Lows | 28 | 17 | 31 |

Prices supplied by Telekurs

NOTES - Prices on this page are as quoted on the individual exchanges and are mostly last traded prices. Highs/Lows are for 1995, except Toronto & Montreal (daily). # Dealings suspended. xd Ex dividend. xc Ex scrip issue. xr Ex rights. xa Ex all. † Priced in US $

### FT FREE ANNUAL REPORTS SERVICE

You can obtain the current annual/interim report of any company annotated with ♣. Please quote the code FT3186. Ring 0181 770 0770 open 24 hours including weekends or fax 0181 770 3822. If calling from outside the UK, dial +44 181 770 0770 or fax +44 181 770 3822. Reports will be sent on the next working day subject to availability.

## TOKYO - MOST ACTIVE STOCKS: Tuesday, October 3, 1995.

| | Stocks Traded | Closing Prices | Change on day |
|---|---|---|---|
| Nip Hsg Loan | 15.0m | 27 | -12 |
| Sumitomo Prec | 8.2m | 1,100 | +105 |
| Nippon Conlux | 5.6m | 1,140 | +70 |
| Nippon Steel | 5.5m | 347 | +10 |
| Fujitsu | 4.2m | 1,240 | +10 |
| Tosoh Corp | 4.1m | 454 | +18 |
| Oki Elect Ind | 4.0m | 937 | +22 |
| Mitsubishi Hvy | 4.0m | 778 | +27 |
| Hyogo Bank | 3.5m | 6 | -1 |
| Sumitomo Mtl Ind | 3.4m | 293 | +8 |

*4 pm close October 3*

# NEW YORK STOCK EXCHANGE COMPOSITE PRICES

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 19 | 12⅛ | AAR | 0.48 | 2.6 | 24 | 145 | 18⅛ | 17⅞ | 18⅛ | -⅛ |
| 48¼ | 35 | AMP | 0.92 | 2.4 | 20 | 9186 | 38¾ | 37⅝ | 37¾ | -⅜ |
| 80¼ | 53¾ | AMR | | | 18 | 7710 | 70⅝ | 68¾ | 68½ | -2⅛ |
| 47⅞ | 41½ | ASA | 1.71 | 4.1 | 27 | 361 | 41¾ | 41⅜ | 41¾ | +⅛ |
| 43⅞ | 30¾ | AbbtL | 0.84 | 1.9 | 21 | 7459 | 43⅝ | 42⅝ | 43⅝ | +⅞ |
| 18⅞ | 12 | AbitibiPr | 0.40 | 2.2 | 21 | 10093 | 18⅜ | 17⅞ | 17⅞ | -⅛ |
| 26¾ | 21 | ABM Ind | 0.60 | 2.3 | 14 | 48 | 26½ | 26⅜ | 26½ | +⅛ |
| 17½ | 13½ | Acpincaln | | | 10 | 104 | 15⅜ | 15¼ | 15¼ | |
| 34⅜ | 21⅞ | ACE Ltd x | 0.56 | 1.6 | 8 | 1585 | 34⅝ | 34 | 34 | -¼ |
| 9¾ | 8⅛ | ACM Gvt In x | 0.90 | 9.2 | 8 | 1122 | u9⅞ | 9⅝ | 9¾ | +⅛ |
| 7¾ | 6½ | ACM GvOpp x | 0.66 | 8.9 | | 23 | 7⅜ | 7⅜ | 7⅜ | +⅛ |
| 7½ | 5¾ | ACM Gvt Sp x | 0.75 | 10.9 | | 622 | 6⅞ | 6¾ | 6⅞ | |
| 8¾ | 7¼ | ACM Gvt Se x | 0.90 | 10.4 | | 504 | u8¾ | 8⅝ | 8⅝ | |
| 9½ | 7⅝ | ACM Man x | 0.90 | 10.3 | | 357 | 8¾ | 8⅝ | 8¾ | +⅛ |
| 29¼ | 10¼ | AcmeCtv | 0.48 | 1.8 | 12 | 58 | 26¾ | 26¼ | 26⅜ | -⅜ |
| 38¾ | 9¼ | Acme Elect | | | 46 | 169 | 9⅝ | d9¼ | 9⅜ | -⅛ |
| 34½ | 24½ | Acordia | 0.72 | 2.9 | 11 | 52 | 24⅝ | d24⅜ | 24½ | -⅛ |
| 19¼ | 8⅝ | Actava | 0.36 | 2.2 | 12 | 2077 | 17⅜ | 16⅛ | 16½ | -1 |
| 16¾ | 10⅛ | Acuson | | | 35 | 103 | 13⅜ | 13¼ | 13⅜ | |
| 18⅝ | 15⅝ | Adams Expr | 0.48 | 2.6 | 0 | 79 | u18⅝ | 18½ | 18½ | |
| 36⅞ | 25 | AdvMic | | | 8 | 15419 | 29¼ | 28⅜ | 29 | +¼ |
| 9⅜ | 5 | Advest Grp | 0.16 | 1.7 | 17 | 134 | u9⅜ | 9¼ | 9⅜ | |
| 24 | 16½ | Aovo Inc | 0.10 | 0.4 | 19 | 353 | 23½ | 23¼ | 23⅜ | -¼ |
| 37¼ | 24.80 | Aegon | 1.28 | 3.6 | 19 | 147 | 36⅛ | 35¾ | 35¾ | -⅜ |
| 5⅞ | 3½ | Aerflx | | | 9 | 182 | 5 | 4⅞ | 5 | |
| 75½ | 46¾ | AetnaL | 2.76 | 3.9 | 52 | 9884 | 71⅞ | 70⅞ | 71½ | +⅛ |
| 44¾ | 37⅞ | Aflac | 0.52 | 1.3 | 12 | 1151 | 41¾ | 40½ | 41 | -⅜ |
| 25⅞ | 16 | Ahmson | 0.88 | 3.4 | 15 | 8148 | u26¼ | 25¼ | 25⅞ | +⅜ |
| 59½ | 43⅞ | AirPrC x | 1.04 | 2.0 | 16 | 2585 | 52⅝ | 50¾ | 51⅜ | -⅛ |
| 25⅝ | 18⅜ | Airbne Frt | 0.30 | 1.3 | 22 | 724 | 24 | 23⅝ | 23⅞ | -¼ |
| 30 | 19⅝ | Airgas Inc | | | 23 | 421 | 26⅛ | 24¾ | 25 | -1⅛ |
| 18 | 13⅜ | Airlease x | 2.00 | 11.9 | 12 | 24 | 16⅞ | 16¾ | 16¾ | -⅛ |
| 35⅝ | 24 | AirTch | | | 133 | 4820 | 30¾ | 30½ | 30⅝ | +⅛ |
| 21⅞ | 13½ | Alaska Air | 0.20 | 1.3 | 21 | 3112 | 16¼ | 15½ | 15⅝ | +¼ |
| 26½ | 17⅛ | Albany Int | 0.40 | 1.7 | 20 | 131 | 23⅝ | 23 | 23½ | -⅛ |
| 19¼ | 12¼ | Albrwl | 0.22 | 1.2 | 23 | 718 | 18⅞ | 18¾ | 18⅞ | |
| 32½ | 25⅞ | AlbCuB | 0.32 | 1.0 | 16 | 458 | 30⅝ | 30¼ | 30½ | -⅛ |
| 28 | 23 | AlCulvr A | 0.32 | 1.2 | 19 | 12 | 26½ | 26¼ | 26⅜ | |
| 34½ | 27¼ | Albtsn | 0.52 | 1.5 | 19 | 2428 | 33¾ | 33½ | 33¾ | -⅛ |
| 36⅝ | 23⅜ | AlcnAl | 0.60 | 1.9 | 15 | 7586 | 31¾ | 30⅞ | 31¼ | -⅝ |
| 87¼ | 61⅞ | AlcoSt | 1.04 | 1.3 | 23 | 6004 | 84⅜ | 81¼ | 81½ | -3⅛ |
| 60¾ | 29½ | AlexBrown | 0.80 | 1.4 | 11 | 390 | 58⅛ | 57 | 57⅛ | -1⅛ |
| 26⅜ | 18½ | AlexAl | 0.10 | 0.4 | 15 | 546 | 24⅜ | 23¾ | 23⅞ | |
| 23 | 18⅜ | Allegh Lud | 0.48 | 2.4 | 14 | 2825 | 19⅞ | 19⅜ | 19⅝ | -¼ |
| 26 | 21½ | AllegP | 1.64 | 6.4 | 14 | 584 | u26 | 25½ | 25⅝ | +⅛ |
| 39⅜ | 21¼ | Allen Con x | 0.20 | 0.6 | 29 | 216 | 34⅞ | 34⅝ | 34¾ | -¼ |
| 33¾ | 25¾ | Allergan | 0.48 | 1.5 | 33 | 734 | 33 | 32½ | 33 | |
| 20½ | 15⅜ | Allnce Cap | 1.72 | 8.6 | 11 | 199 | 20 | 19¾ | 20 | +¼ |
| 9⅞ | 8⅜ | Allnce Gl | 0.18 | 1.9 | | 57 | 9⅝ | 9½ | 9½ | |
| 30¼ | 23½ | Ald Irish | 1.11 | 3.7 | 10 | 16 | u30¼ | 30 | 30¼ | +¼ |
| 47⅛ | 33⅜ | AldSig | 0.78 | 1.8 | 14 | 5685 | 43⅞ | 42¾ | 43⅛ | -½ |
| 10½ | 9¼ | Allmer | 0.84 | 8.4 | | 33 | 10⅛ | 10 | 10 | -⅛ |
| 37¼ | 23½ | Allstte | 0.78 | 2.2 | 11 | 8337 | 35⅛ | 34½ | 35 | +¼ |
| 31 | 23¼ | Alltel Crp | 0.96 | 3.2 | 18 | 1629 | 30 | 29½ | 29¾ | -⅛ |
| 6⅛ | 4⅞ | Allwaste | | | 13 | 112 | 5 | d4⅞ | 4⅞ | |
| 37⅞ | 23¾ | Alumax | | | 7 | 4893 | 33¾ | 32⅞ | 32⅞ | -⅝ |
| 60¼ | 36⅞ | Alcoa | 0.90 | 1.8 | 10 | 8685 | 52¼ | 50½ | 50½ | -1⅞ |
| 26⅞ | 18⅛ | Alza Cp A | | | 29 | 3680 | 22⅞ | 22⅛ | 22½ | -¼ |
| 7⅝ | 5⅝ | AmGovInc x | 0.96 | 14.5 | | 500 | 6⅝ | 6½ | 6⅝ | +⅛ |
| 14¾ | 7⅝ | Am Precis x | 0.26 | 1.9 | 23 | 38 | 13⅞ | 13⅝ | 13⅝ | -¼ |
| 6⅞ | 4½ | AmaxGd | 0.08 | 1.3 | 9 | 219 | 6 | 5⅞ | 6 | +⅛ |
| 22¼ | 16¾ | Amcast Ind | 0.56 | 3.0 | 9 | 39 | 19¼ | 18⅞ | 18⅞ | -⅜ |
| 53⅛ | 43¾ | AmdaHs | 0.60 | 1.3 | 530 | 1651 | 48 | 47¼ | 47¾ | -¼ |
| 43½ | 36⅝ | AmBrnd | 2.00 | 4.7 | 9 | 3065 | 42⅝ | 42⅛ | 42⅛ | -½ |
| 27 | 13¾ | Am Bus Prd | 0.56 | 2.7 | 14 | 389 | 20¾ | 20⅝ | 20¾ | |
| 7½ | 6½ | Am Cap Inc | 0.65 | 8.7 | | 175 | 7⅜ | 7⅜ | 7⅜ | |
| 19⅝ | 16¾ | Am Cap Bd | 1.54 | 8.1 | 33 | 26 | 19⅛ | 19 | 19⅛ | |
| 21¼ | 18 | Am Cap CV | 1.08 | 5.2 | 0 | 5 | 20¾ | 20¾ | 20¾ | |
| 36½ | 31¼ | AmElPw | 2.40 | 6.5 | 13 | 8176 | u36¾ | 36⅛ | 36¾ | +⅝ |
| 45⅛ | 29⅛ | AmExpr | 0.90 | 2.1 | 15 | 14736 | 44⅛ | 43⅝ | 43⅞ | -⅛ |
| 38⅞ | 27½ | AmGenl | 1.24 | 3.3 | 12 | 1372 | 37⅜ | 36⅝ | 37⅜ | +⅜ |
| 6¼ | 4¾ | Am Govt In x | 0.77 | 14.3 | | 145 | 5½ | 5⅜ | 5⅜ | -⅛ |
| 22⅜ | 17½ | Am Hlth Pr | 1.98 | 9.3 | 12 | 200 | 21⅜ | 21 | 21¼ | -⅛ |
| 21½ | 16¼ | Am Heritge | 0.72 | 3.6 | 10 | 31 | 20⅛ | 19⅜ | 19¾ | -¼ |
| 87½ | 61¾ | AmHome | 3.00 | 3.5 | 12 | 5486 | 86 | 83¾ | 86 | +2⅜ |
| 3⅝ | 2⅞ | Am Hotels | 0.75 | 24.0 | 14 | 3 | 3⅛ | 3⅛ | 3⅛ | |
| 86¾ | 64 | AmIntl | 0.34 | 0.4 | 17 | 6377 | 86 | 84⅛ | 85⅝ | +1⅝ |
| 7⅝ | 5½ | Am Opp Inc x | 0.84 | 14.3 | | 476 | 5⅞ | 5¾ | 5⅞ | |
| 31¾ | 21 | Am Presdt | 0.40 | 1.5 | 14 | 3692 | 29 | 26¾ | 26⅞ | -2⅜ |
| 8¾ | 6¾ | Am Real Es | 0.44 | 5.0 | 6 | 197 | u8⅞ | 8¾ | 8¾ | |
| 30¾ | 23¼ | AmStor x | 0.58 | 1.9 | 11 | 2027 | 29⅝ | 28⅝ | 29½ | +⅜ |
| 19½ | 17 | Am Watr 5% | 1.25 | 6.6 | | z100 | 19 | 19 | 19 | |
| 32¾ | 26¾ | Am Watr | 1.28 | 4.1 | 12 | 253 | 31¼ | 30⅝ | 30⅞ | +⅛ |
| 32⅛ | 24¾ | Am Fin x | 1.00 | 3.3 | 16 | 244 | 30¼ | 29¾ | 29⅞ | |
| 32 | 19⅝ | AmStnd | | | 66 | 708 | 29⅝ | 29⅜ | 29⅜ | -⅛ |
| 52¾ | 39⅞ | Amrtch x | 2.00 | 3.9 | 16 | 4513 | 51¾ | 51¼ | 51⅜ | -¼ |
| 37⅞ | 29⅛ | Ameron Inc | 1.28 | 3.6 | 11 | 85 | 36¼ | 35¾ | 35⅞ | -⅜ |
| 19½ | 15¾ | Ametek | 0.24 | 1.4 | 13 | 347 | 17¼ | 16¾ | 16¾ | -⅜ |
| 69¾ | 56⅜ | Amoco | 2.40 | 3.8 | 15 | 5078 | 64⅜ | 63½ | 64 | +⅜ |
| 10⅝ | 7¾ | AmpcoPitt | 0.10 | 1.0 | 14 | 23 | 10½ | 10⅜ | 10½ | -⅛ |
| 5½ | 3⅛ | Amre Inc | 0.12 | 2.7 | 24 | 149 | 4½ | 4⅜ | 4⅜ | |
| 39⅜ | 25¾ | Amsouth | 1.52 | 3.9 | 14 | 928 | 38⅞ | 38⅝ | 38⅞ | +⅜ |
| 2⅞ | 9/16 | Anacomp | | | 0 | 304 | ⅝ | d9/16 | ⅝ | |
| 50¾ | 35⅝ | Anadarko | 0.30 | 0.6 | 110 | 3917 | 48⅛ | 47¼ | 47½ | -½ |
| 39⅜ | 20 | Analog | | | 26 | 2614 | 34⅞ | 34⅛ | 34⅞ | |
| 27½ | 24⅜ | Angelica | 0.96 | 3.9 | 17 | 123 | 24⅞ | 24⅝ | 24⅝ | -¼ |
| 64½ | 50¾ | AnBsch | 1.76 | 2.8 | 15 | 2351 | 63⅝ | 63⅛ | 63½ | |
| 44 | 37⅝ | Anixter | | | 27 | 1060 | 41⅛ | 41 | 41⅛ | |
| 20⅝ | 15⅛ | Anthony In | 0.44 | 2.3 | 14 | 400 | 19¼ | 19 | 19⅛ | |
| 41¾ | 31⅜ | Aon Cp | 1.36 | 3.3 | 12 | 805 | 41½ | 40⅞ | 41⅜ | +⅜ |
| 31 | 22¼ | Apache Crp x | 0.28 | 1.1 | 54 | 5054 | 27⅜ | 26⅝ | 26⅝ | -⅜ |
| 9¾ | 8½ | Apex Mun F x | 0.69 | 7.5 | | 122 | 9⅜ | 9¼ | 9¼ | -⅛ |
| 30¼ | 20 | APH | | | 18 | 2114 | 22⅛ | 21½ | 21¾ | -⅛ |
| 18¾ | 2½ | Appld Mag | | | 11 | 2577 | 14⅞ | 13⅞ | 14⅜ | -⅝ |
| 35⅛ | 22¾ | Appl Pw A | 0.12 | 0.4 | 18 | 243 | 32½ | 30¾ | 30¾ | -1⅝ |
| 20 | 14¼ | ArchDn | 0.10 | 0.7 | 10 | 13643 | 15½ | 15¼ | 15⅜ | -⅛ |
| 50⅛ | 41¼ | Arco Chem | 2.80 | 5.7 | 10 | 284 | 49½ | 48¾ | 48¾ | -⅝ |
| 50⅜ | 41½ | Armco 4.5P | 4.50 | 9.2 | | 7 | 49 | 48¾ | 48¾ | |
| 7¾ | 5⅞ | Armco | | | 12 | 588 | 6½ | 6⅜ | 6½ | |
| 26¼ | 20 | Armco 2.1P | 2.10 | 8.3 | | 11 | 25⅜ | 25 | 25¼ | |
| 60½ | 38⅜ | ArmstW | 1.44 | 2.7 | 11 | 1155 | 55¾ | 53⅞ | 54¼ | -1½ |
| 59¾ | 35⅛ | Arrow Elec | | | 17 | 1093 | 53⅝ | 52 | 52⅝ | -1 |
| 6 | 3¼ | Artra Grp | | | 0 | 10 | 4¾ | 4⅝ | 4⅝ | -⅛ |
| 24⅞ | 19¾ | Arvin Ind | 0.76 | 3.6 | 18 | 554 | 22⅛ | 21⅛ | 21¼ | -⅝ |
| 36½ | 23⅞ | Asarco | 0.80 | 2.6 | 8 | 378 | 31¼ | 30¾ | 30⅞ | -⅛ |
| 30¾ | 26 | Ashld Coal | 0.46 | 1.5 | 12 | 150 | 29⅞ | 29¾ | 29¾ | -¼ |
| 38⅜ | 31⅝ | AshOil | 1.10 | 3.3 | 21 | 629 | 33⅜ | 33⅛ | 33¼ | |
| 17⅞ | 12⅛ | Asia Pac F | 0.02 | 0.2 | | 420 | 13⅛ | 12⅞ | 13 | -⅛ |
| 2⅞ | 1⅝ | Asset Inv | 0.36 | 12.5 | 5 | 359 | u2⅞ | 2¾ | 2⅞ | |
| 68¼ | 47⅝ | AT&T x | 1.32 | 2.1 | 20 | 21443 | 64¾ | 63¾ | 63⅞ | -⅞ |
| 280 | 242 | Atl Rich 2 | 2.80 | 1.1 | | z100 | 256 | 256 | 256 | |
| 39 | 29¾ | Atlnta Gas | 2.08 | 5.4 | 37 | 203 | 38⅞ | 38⅝ | 38⅝ | -⅜ |
| 8¼ | 5½ | Atlnta Sos | 0.28 | 3.6 | 9 | 2 | 7⅞ | 7⅞ | 7⅞ | |
| 20 | 17½ | Atlntc Egy x | 1.54 | 7.8 | 18 | 3893 | u20 | 19¾ | 19¾ | -¼ |
| 117⅞ | 100½ | AtlRch | 5.50 | 5.2 | 11 | 4518 | 106¾ | 105½ | 105½ | -½ |
| 2½ | 1¼ | Atlas | | | 1 | 1367 | 1⅝ | 1½ | 1⅝ | |
| 20⅝ | 16⅛ | Atmos Engy | 0.92 | 4.8 | 18 | 258 | 19¼ | 19 | 19¼ | +⅛ |
| 24½ | 14½ | Augat | 0.16 | 0.9 | 13 | 577 | 19⅛ | 18¾ | 18¾ | -½ |
| 8¾ | 7⅜ | Austria Fd | 0.03 | 0.3 | | 9 | 8⅛ | 8 | 8⅛ | +⅛ |
| 70¾ | 57⅝ | AuData | 0.70 | 1.0 | 24 | 2498 | 69⅛ | 68 | 68¾ | -¼ |
| 27¾ | 22 | AutoZone | | | 27 | 1329 | 25½ | 25¼ | 25⅜ | |
| 18¼ | 14⅝ | Avemco x | 0.48 | 2.9 | 14 | 61 | 16⅞ | 16⅝ | 16⅝ | -¼ |
| 8⅞ | 5⅞ | Avialt | 0.04 | 0.5 | 14 | 1753 | 8⅝ | 8⅜ | 8½ | |
| 55⅝ | 35¼ | Avnet | 0.60 | 1.2 | 15 | 1058 | 51⅝ | 51 | 51⅜ | +⅛ |
| 75⅜ | 54 | AvonPr | 2.20 | 3.1 | 17 | 2245 | 71¾ | 71½ | 71¾ | |
| 19⅜ | 11½ | Aydin Corp | | | 18 | 203 | 17⅛ | 17 | 17 | -⅛ |
| 10⅜ | 5¾ | Aztar | | | 40 | 8199 | 8⅜ | 8 | 8 | -⅜ |

### - B -

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 33¾ | 29 | BCE | 2.72 | 8.0 | 15 | 3410 | u34⅛ | 33½ | 34 | +¾ |
| 8⅞ | 6⅛ | BET ADR | 0.27 | 3.2 | 5 | 7 | 8½ | 8⅜ | 8½ | +⅛ |
| 5½ | 3⅞ | Bairnco | 0.20 | 3.7 | 7 | 95 | u5½ | 5⅜ | 5⅜ | |
| 17⅜ | 13¾ | Baker Fent | 0.40 | 2.4 | 141 | 141 | 17 | 16⅞ | 17 | |
| 23¾ | 16¾ | BakerH | 0.46 | 2.2 | 25 | 10922 | 21 | 20¾ | 20¾ | -⅛ |
| 28½ | 17¼ | Baldor Elc | 0.36 | 1.5 | 23 | 30 | 24⅞ | 24½ | 24½ | -⅜ |
| 38¾ | 29½ | BallCp | 0.60 | 2.0 | 10 | 1472 | 30⅛ | 29¾ | 30 | |
| 17½ | 10⅛ | BadMd | 0.06 | 0.4 | 27 | 243 | 16¼ | 16 | 16¼ | +¼ |
| 12⅞ | 6 | Bally | | | 43 | 3923 | 10⅞ | 10⅝ | 10¾ | -⅛ |
| 26⅝ | 22 | BaltGE | 1.56 | 6.0 | 15 | 2131 | 26⅛ | 25⅞ | 26⅛ | +⅛ |
| 36¾ | 25⅛ | BncOne | 1.36 | 3.6 | 13 | 7281 | u37⅝ | 36½ | 37½ | +1 |
| 31⅞ | 23½ | BancoBil V | 1.07 | 3.5 | 10 | 152 | 30¾ | 30¼ | 30⅜ | -⅜ |
| 12¼ | 10⅛ | BCH | 0.36 | 3.5 | 7 | 15 | 10⅜ | 10¼ | 10¼ | |
| 36¾ | 24⅞ | BcpHawaii | 1.09 | 3.2 | 13 | 147 | 34¼ | 33⅞ | 34¼ | +⅜ |
| 65⅞ | 52¼ | Bandag | 0.80 | 1.5 | 13 | 481 | 52½ | d51⅜ | 51¾ | -⅝ |
| 61⅛ | 39½ | BankAm | 1.84 | 3.0 | 10 | 11259 | 60⅞ | 59⅞ | 60⅝ | +⅝ |
| 79½ | 74 | Bank Bost | 5.58 | 7.2 | | z100 | 77½ | 77½ | 77½ | |
| 48⅜ | 25½ | BkBstn | 1.48 | 3.1 | 11 | 4946 | 48 | 46⅞ | 47¾ | +½ |
| 45 | 40¾ | Bk Bostn P | 3.04 | 7.1 | | 6 | 43 | 43 | 43 | -¼ |
| 48¾ | 28½ | BankNY | 1.44 | 3.1 | 10 | 3329 | 46⅜ | 45⅞ | 46¼ | +¼ |
| 48⅛ | 42 | BankAm A | 3.25 | 6.8 | | 7 | 48 | 47⅞ | 47⅞ | -⅛ |
| 87¾ | 71½ | BankAm B | 6.00 | 6.8 | | 42 | u88½ | 87 | 87¾ | +¾ |
| 72 | 49¾ | BnkTst | 4.00 | 5.8 | 34 | 4919 | 69¾ | 68⅝ | 69½ | -½ |
| 48¼ | 36 | Bclays | 1.54 | 3.3 | 9 | 11 | 47⅜ | 47¼ | 47¼ | |
| 31¾ | 25½ | Bard (C R) | 0.64 | 2.1 | 20 | 3067 | 30¼ | 29⅞ | 30 | -¼ |
| 45¾ | 36¼ | Barnes Grp | 1.60 | 4.0 | 10 | 35 | 40½ | 40¼ | 40⅜ | -¼ |
| 59½ | 38¼ | BarnBk | 1.88 | 3.3 | 11 | 2328 | 57⅜ | 56 | 56⅝ | -½ |
| 27½ | 19¾ | BrckGd | 0.12 | 0.5 | 32 | 8250 | 26 | 25⅜ | 25½ | -⅛ |
| 18⅛ | 7⅜ | Barry(RG) | | | 53 | 98 | 16⅞ | 16⅜ | 16⅝ | |
| 12⅜ | 8⅞ | BattlMt | 0.05 | 0.5 | 192 | 4331 | 9¾ | 9½ | 9⅝ | |
| 44½ | 30⅞ | Bausch | 1.04 | 2.7 | 124 | 8214 | 39½ | 37⅛ | 38½ | -1 |
| 41⅜ | 26¾ | Baxter | 1.13 | 2.8 | 18 | 7061 | 41⅛ | 40½ | 40⅞ | +¼ |
| 25¾ | 22¼ | Bay St Gas | 1.50 | 6.1 | 14 | 86 | 24¾ | 24½ | 24¾ | |
| 21⅞ | 19 | Bd Tr 1838 x | 1.64 | 7.7 | | 3 | 21½ | 21⅜ | 21⅜ | -⅛ |
| 23⅝ | 15¾ | Bear Stms | 0.60 | 2.9 | 12 | 1294 | 21¼ | 20⅞ | 20⅞ | -⅝ |
| 43¾ | 40¾ | BearStPfA x | 2.75 | 6.5 | | 6 | 42 | 42 | 42 | |
| 34⅜ | 27½ | Bearings | 0.72 | 2.1 | 15 | 31 | 34¼ | 33¾ | 33¾ | -⅝ |
| 31½ | 26½ | Beckman In | 0.44 | 1.4 | 18 | 2142 | 30⅞ | 30⅛ | 30⅞ | +¾ |
| 64¾ | 48 | BectnD | 0.82 | 1.3 | 18 | 2452 | 64⅝ | 62⅞ | 63½ | -1¼ |
| 6¾ | 5⅛ | BdrdProp | 0.42 | 6.2 | 15 | 7 | u6¾ | 6⅝ | 6¾ | |
| 61⅞ | 48⅜ | BellAtl | 2.80 | 4.5 | 18 | 3377 | u62¼ | 61½ | 61⅝ | -¼ |
| 25⅝ | 17¾ | Bell In | 0.40 | 1.9 | 14 | 131 | 21¼ | 20⅝ | 20⅞ | -½ |
| 73⅝ | 53¾ | BellSth | 2.88 | 3.9 | 16 | 5356 | u73⅞ | 73¼ | 73¾ | +⅝ |
| 35¾ | 27¾ | Belo A | 0.32 | 1.0 | 18 | 1058 | 33½ | 33 | 33⅛ | -½ |
| 30 | 23 | Bemis | 0.64 | 2.3 | 18 | 243 | 27⅜ | 27⅛ | 27¼ | |
| 60 | 49½ | Benef 4.3P | 4.30 | 7.3 | | z100 | 59 | 59 | 59 | +⅝ |
| 53⅜ | 37 | Benef | 1.88 | 3.7 | 19 | 988 | 51¼ | 50¾ | 51⅛ | +⅜ |
| 24⅛ | 16 | Benettn A | 0.31 | 1.5 | 12 | 7 | 21⅝ | 21¼ | 21⅝ | +⅜ |
| 1½ | ⅜ | Benguet B | 0.04 | 6.4 | 62 | 134 | ⅝ | d⅝ | ⅝ | +1/16 |
| 29⅛ | 19¼ | BergBr | 0.48 | 2.3 | 13 | 1801 | 21⅜ | 20½ | 20⅞ | -½ |
| 30600 | 20100 | BerkH | | | 70 | 1 | 29950 | 29800 | 29800 | -50 |
| 10⅞ | 8¾ | Berry Petr | 0.40 | 3.8 | 24 | 110 | 10⅜ | 10¼ | 10⅜ | |
| 33⅝ | 19⅞ | Best Buy | | | 19 | 3180 | 25⅝ | 24¾ | 24⅞ | -⅝ |
| 27⅞ | 24⅝ | Beth St 2. | 2.50 | 9.2 | | 57 | 27½ | 27⅛ | 27¼ | -⅛ |
| 55⅛ | 48⅞ | BetStm Pl | 5.00 | 9.2 | | 25 | 54⅝ | 54¼ | 54½ | |
| 19⅛ | 13⅝ | BethSt | 0.40 | 2.8 | 13 | 2677 | 14⅛ | 14 | 14⅛ | |
| 46⅝ | 40⅝ | Betz L | 1.48 | 3.7 | 16 | 311 | 40¾ | d39¾ | 40⅜ | -¼ |
| 18⅛ | 11 | BevEnt | | | 17 | 4113 | 13⅝ | 13⅛ | 13⅛ | -⅝ |
| 22½ | 15¼ | Biocraft | 0.10 | 0.6 | 88 | 122 | 17¼ | 16⅞ | 16⅞ | -⅛ |
| 22¾ | 16½ | Birmingm S | 0.40 | 2.4 | 9 | 1053 | 17 | 16¾ | 17 | -⅛ |
| 34⅝ | 23 | BlDeck | 0.40 | 1.2 | 21 | 1723 | d34¾ | 34⅛ | 34¼ | -⅛ |
| 25⅞ | 19¾ | Black H Pl. | 1.34 | 5.5 | 13 | 134 | 24½ | 24¼ | 24½ | -⅛ |
| 8⅞ | 7¾ | BlckrckAdv | 0.68 | 7.7 | | 126 | 8¾ | 8⅝ | 8¾ | +⅛ |
| 7⅜ | 6⅛ | BlckrckInc | 0.75 | 10.3 | | 743 | 7¼ | 7 | 7¼ | +⅛ |
| 9⅜ | 8⅛ | BlckrckTgt | 0.65 | 7.1 | | 567 | 9⅛ | 9 | 9⅛ | +⅛ |
| 46⅝ | 33⅜ | Block | 1.28 | 3.5 | 33 | 5615 | 38 | 36⅞ | 37 | -⅞ |
| 7⅞ | 6 | Blue Chip | 0.12 | 1.5 | | 100 | 7¾ | 7⅝ | 7¾ | |
| 39⅞ | 15⅜ | BMC Ind | 0.08 | 0.2 | 29 | 165 | 38⅝ | 38¼ | 38½ | |
| 72⅜ | 44⅜ | Boeing | 1.00 | 1.5 | 28 | 14297 | 67 | 64½ | 65⅝ | -1½ |
| 47½ | 26¼ | BoiseC x | 0.60 | 1.6 | 20 | 3521 | 39⅞ | 37½ | 38¼ | -1¼ |
| 39⅜ | 14⅝ | Bolt B & N | 0.08 | 0.2 | 10 | 1851 | 39¼ | 37½ | 37¾ | -½ |
| 10⅞ | 7⅛ | Bombay Co | | | 19 | 1244 | 8 | 7⅜ | 7½ | -½ |
| 25⅜ | 14¾ | Bordn Chm | 5.68 | 32.0 | 2 | 916 | 18¼ | 17¾ | 17¾ | -⅜ |
| 27 | 19¾ | Bostn Celt | 1.50 | 5.5 | 14 | 6 | u27⅛ | 26⅞ | 27⅛ | +¼ |
| 42⅝ | 16⅝ | BosSci | | | 141 | 2158 | 42½ | 41⅛ | 41⅛ | -1⅜ |
| 54⅜ | 26⅜ | Bowatr | 0.60 | 1.3 | 15 | 3766 | 46¼ | 45½ | 45½ | -½ |
| 32⅞ | 19 | Brazil Fnd | 0.27 | 1.0 | | 274 | 26⅝ | 25¾ | 25¾ | -¾ |
| 33¾ | 29⅝ | BRE Prop | 2.52 | 7.5 | 15 | 66 | u34 | 33½ | 33½ | -⅛ |
| 29 | 18⅜ | BreedTech x | 0.20 | 1.0 | 8 | 1413 | 19⅝ | 19⅜ | 19½ | -⅛ |
| 41 | 32¼ | BrigSt | 1.04 | 2.6 | 11 | 1700 | 40⅛ | 39⅝ | 40⅛ | |
| 20⅞ | 14½ | Brinkerlnt | | | 14 | 3712 | 14¾ | d14 | 14 | -⅝ |
| 74⅞ | 57¾ | BrMySq | 2.96 | 3.9 | 19 | 14314 | u75⅛ | 72 | 75⅛ | +2¾ |
| 73¼ | 58¼ | Br Air | 2.08 | 2.8 | 15 | 1174 | u75¼ | 74¼ | 74½ | +3¼ |
| 50½ | 40⅞ | Brit Gas | 2.43 | 5.8 | 31 | 20081 | 41¾ | 41⅝ | 41¾ | -¼ |
| 93⅜ | 75⅝ | BP | 2.55 | 2.8 | 16 | 2055 | 91 | 90⅜ | 90½ | -⅜ |
| 19 | 15⅝ | BP Prudhoe | 1.78 | 11.1 | 9 | 279 | 16¼ | 15⅞ | 16 | -⅛ |
| 30¼ | 22⅞ | BSteel | 1.27 | 4.3 | 57 | 765 | 29¼ | 29⅛ | 29¼ | +¼ |
| 65½ | 57⅞ | BT | 2.93 | 4.7 | 13 | 113 | 62¾ | 62⅛ | 62⅛ | -⅝ |
| 26⅜ | 22 | BklynU | 1.39 | 5.5 | 13 | 373 | 25¼ | 24⅝ | 25¼ | +½ |
| 33⅛ | 16 | BrwnGp | 1.00 | 5.4 | 56 | 558 | 18¾ | 18⅜ | 18⅝ | -⅛ |
| 11 | 5⅝ | BrwnSh | 0.32 | 2.9 | 7 | 167 | 10⅞ | 10½ | 10⅞ | -⅛ |
| 39⅜ | 28⅜ | BrnFor8 | 0.99 | 2.5 | 18 | 150 | u39¾ | 38¾ | 39⅝ | +1¼ |
| 40⅝ | 27⅛ | BrFerr | 0.68 | 2.2 | 16 | 8062 | 30⅞ | 30¼ | 30⅜ | -⅛ |
| 4¾ | 3¼ | BRT | | | 45 | 15 | 4⅛ | 4⅛ | 4⅛ | |
| 23½ | 16⅜ | Brnswk | 0.50 | 2.5 | 15 | 3128 | 20¼ | 19⅞ | 20 | -¼ |
| 23⅝ | 14½ | Brush Well | 0.40 | 2.2 | 14 | 107 | 18⅜ | 18¼ | 18⅜ | |
| 37 | 30 | Buckeye Pt | 2.80 | 7.9 | 8 | 90 | 35⅝ | 35¼ | 35⅜ | -¼ |
| 14⅜ | 8½ | Burl Coat | | | 35 | 495 | 13¼ | 13 | 13⅛ | -⅛ |
| 74¼ | 70¾ | BurlN | 1.20 | 1.6 | 13 | 7292 | 73½ | 72¾ | 72⅞ | -½ |
| 42¼ | 33⅝ | Burln Resc | 0.55 | 1.4 | 60 | 3034 | 39⅝ | 38½ | 38¾ | -⅞ |
| 14½ | 11½ | Burnham Pc | 1.44 | 12.3 | 14 | 90 | 11⅞ | 11⅝ | 11¾ | |
| 31¼ | 23⅜ | BushBoake | | | 18 | 143 | 28⅛ | 26⅝ | 26¾ | -1¼ |

### - C -

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 27¾ | 21¾ | CBI | 0.48 | 2.1 | 19 | 787 | 23½ | 23¼ | 23¼ | -½ |
| 82¼ | 55¾ | CBS | 0.40 | 0.5 | 31 | 6350 | 80⅛ | 80 | 80⅛ | +⅛ |
| 26⅜ | 22⅝ | CMS En | 0.96 | 3.6 | 12 | 1491 | u26⅜ | 26 | 26⅜ | +⅛ |
| 106½ | 64¾ | CNA Fn | | | 11 | 230 | u106½ | 106⅜ | 106⅜ | -⅛ |
| 68⅛ | 51⅝ | CPC x | 1.52 | 2.3 | 19 | 2090 | 66¾ | 65¾ | 66⅝ | +⅜ |
| 22⅛ | 13¾ | CPI Corp | 0.56 | 2.7 | 16 | 912 | 21¼ | 20⅝ | 20¾ | -½ |
| 89¼ | 69⅜ | CSX | 1.76 | 2.1 | 15 | 1334 | 84¼ | 82⅝ | 83 | -1⅜ |
| 34½ | 27⅜ | CTS Corp x | 0.60 | 2.0 | 10 | 10 | 30⅝ | 30½ | 30½ | -¼ |
| 22¼ | 16¾ | Cable&Wire | 0.46 | 2.3 | 34 | 1019 | 20⅛ | 19⅜ | 19½ | -¼ |
| 69¼ | 37⅜ | Cabletron | | | 24 | 4962 | 64⅝ | 62½ | 63⅝ | -¾ |
| 58¾ | 28 | CabotC | 0.72 | 1.4 | 14 | 366 | 52⅝ | 51⅜ | 51⅜ | -1⅛ |
| 17 | 12⅜ | Cabot O&G | 0.16 | 1.1 | 15 | 112 | 14 | 13⅞ | 14 | +⅛ |
| 41¾ | 18¼ | CadnceDsgn | | | 27 | 1553 | 39⅛ | 38½ | 39 | -¼ |
| 1⅞ | 1½ | Cal Real E | 0.20 | 13.3 | 50 | 2 | 1½ | d1½ | 1½ | |
| 13¾ | 10 | Calgon Cbn | 0.30 | 2.6 | 77 | 341 | 11¾ | 11⅝ | 11⅝ | -⅛ |
| 21½ | 15⅜ | CalEngy | | | 19 | 451 | 20⅞ | 20⅜ | 20½ | |
| 16⅝ | 9½ | Cal Fed | | | 4 | 494 | 15½ | 15¼ | 15¼ | -⅛ |
| 16 | 11¾ | ClwayGlf | 0.20 | 1.3 | 12 | 2172 | 15⅝ | 15⅜ | 15½ | -⅛ |
| 21⅜ | 17 | Callmat Co | 0.40 | 2.3 | 28 | 359 | 17½ | 17¼ | 17⅜ | -⅛ |
| 51¼ | 41 | CmpblS | 1.24 | 2.4 | 18 | 1997 | 50⅞ | 50 | 50¾ | +½ |
| 1 | 9/16 | Campbl Rs | | | 17 | 7270 | ⅞ | 13/16 | ⅞ | |
| 18⅜ | 13⅜ | CanPac x | 0.32 | 2.0 | 22 | 3100 | 16¼ | 16 | 16¼ | +¼ |
| 121 | 80¾ | CapCit x | 0.20 | 0.2 | 24 | 1833 | 117⅝ | 116¾ | 117 | -¼ |
| 29⅝ | 15⅜ | CapOneFin | 0.32 | 1.1 | 23 | 2013 | 28⅞ | 27⅞ | 28¼ | -⅜ |
| 13¼ | 10⅛ | Cpstd 1.26 | 1.26 | 9.6 | | 250 | 13⅛ | 12⅞ | 13⅛ | +¼ |
| 30¼ | 15¾ | Capstd 1.6 | 1.60 | 5.5 | | 2 | 29¼ | 29¼ | 29¼ | |
| 34¾ | 16¾ | Capstd Mge | 2.34 | 7.4 | 13 | 89 | 31⅞ | 31½ | 31¾ | -⅛ |
| 23⅜ | 16 | Caremark | 0.04 | 0.2 | 17 | 10617 | 20¼ | 19⅞ | 20 | -⅜ |
| 42⅜ | 34½ | CarlCo | 0.88 | 2.1 | 16 | 49 | 41⅝ | 41½ | 41½ | -⅛ |
| 25½ | 18¾ | Carmike Cl | | | 12 | 20 | 22 | 21⅞ | 21⅞ | -⅛ |
| 34 | 26¼ | CarP&L | 1.76 | 5.2 | 16 | 2677 | u34 | 33½ | 33¾ | +⅛ |
| 41¼ | 26¾ | CpntrT | 1.32 | 3.4 | 13 | 258 | 39⅝ | 38⅝ | 38⅝ | -½ |
| 13⅞ | 10⅛ | CarterWal | 0.16 | 1.3 | 9 | 271 | 12⅛ | 11¾ | 12 | -⅛ |
| 15½ | 13 | Cascde N G | 0.96 | 6.3 | 20 | 67 | u15½ | 15⅛ | 15⅛ | -¼ |
| 41¼ | 20½ | CaseCp x | 0.20 | 0.5 | 10 | 2531 | 37⅞ | 37⅛ | 37⅜ | -⅜ |
| 9¾ | 6¼ | Cash Amer | 0.05 | 0.8 | 11 | 369 | 6⅝ | 6⅝ | 6⅝ | -⅛ |
| 75¼ | 48¼ | Catplr | 1.40 | 2.5 | 9 | 9212 | 56 | 54⅞ | 55⅜ | +⅛ |
| 26⅝ | 16⅞ | CDI Corp | | | 13 | 1106 | 21⅛ | 20⅜ | 20⅜ | -¼ |
| 32¾ | 28⅛ | Cedar Fair x | 2.30 | 7.2 | 12 | 213 | 31¾ | 31½ | 31¾ | +½ |
| 11¼ | 8⅝ | CentEn | 0.80 | 7.2 | 7 | 976 | u11¼ | 11⅛ | 11⅛ | -⅛ |
| 31⅜ | 21⅞ | Centex | 0.20 | 0.7 | 18 | 1206 | 29⅝ | 29⅛ | 29½ | +½ |
| 30⅝ | 25⅜ | Centr Hdsn | 2.10 | 6.8 | 11 | 91 | u30⅞ | 30½ | 30¾ | +⅛ |
| 25¾ | 22 | Centr Loui | 1.50 | 5.8 | 13 | 128 | u26¼ | 25¾ | 25⅞ | +¼ |
| 14⅛ | 10¼ | Centr Main | 0.90 | 6.7 | 10 | 287 | 13⅜ | 13¼ | 13⅜ | +¼ |
| 30¾ | 24⅛ | Centr Nwsp x | 0.68 | 2.2 | 17 | 201 | 30⅜ | 30⅛ | 30¼ | |
| 14⅜ | 13¼ | Centr Vrmt | 0.80 | 5.8 | 10 | 41 | 13¾ | 13½ | 13¾ | +⅛ |
| 26⅝ | 22⅜ | CentSW | 1.72 | 6.7 | 12 | 7437 | 25⅝ | 25⅜ | 25⅝ | +⅛ |
| 33⅛ | 27 | Century Tl | 0.33 | 1.1 | 14 | 970 | 30¼ | 29¾ | 30⅛ | +⅛ |
| 46¾ | 26⅛ | Cerldn | | | 26 | 1658 | 45⅛ | 44⅝ | 44¾ | -¼ |
| 20⅝ | 14⅜ | ChampEnt | | | 11 | 220 | 19⅝ | 19 | 19⅛ | -½ |
| 60¼ | 36⅛ | Chmpln | 0.20 | 0.4 | 11 | 8960 | 53⅛ | 50⅞ | 51¾ | -1½ |
| 11⅞ | 7½ | Chaparral | 0.20 | 1.8 | 13 | 33 | 11⅛ | 11 | 11 | +⅛ |
| 9¾ | 5⅞ | Chart Hse | | | 13 | 49 | 7¾ | 7½ | 7½ | -¼ |
| 61½ | 32⅝ | ChaseM | 1.80 | 2.9 | 11 | 9803 | 61⅜ | 60⅜ | 61⅜ | +⅝ |
| 6⅝ | 2⅞ | Chaus B | | | 3 | 321 | 5½ | 5 | 5 | -⅜ |
| 27½ | 15⅞ | ChckSy | | | 37 | 143 | 26¼ | 25⅞ | 26 | -⅜ |
| 36½ | 30⅜ | Chemed | 2.08 | 5.9 | 19 | 83 | 35⅜ | 35⅛ | 35¼ | -¼ |
| 61⅝ | 35¾ | ChemBk | 2.00 | 3.3 | 11 | 13688 | 61⅛ | 60⅛ | 61 | +½ |
| 39 | 28½ | Chesapeake | 0.80 | 2.3 | 11 | 159 | 35¼ | 34⅝ | 34⅞ | -⅛ |
| 50⅜ | 43⅜ | Chevrn | 2.00 | 4.1 | 15 | 4216 | 49⅛ | 48½ | 48⅞ | +¼ |
| 28½ | 16½ | Chile Fund | 0.04 | 0.2 | | 422 | 22½ | 22⅛ | 22⅜ | -⅛ |
| 17⅜ | 12⅛ | ChiqBr | 0.20 | 1.2 | | 1666 | 17 | 16¾ | 16¾ | -¼ |
| 7¼ | 4 7/16 | Chock Full | | | 15 | 133 | 6 | 6 | 6 | |
| 46¼ | 32½ | ChCrft | | | 30 | 188 | 44 | 43¾ | 43⅞ | |
| 31¾ | 24¾ | Christiana | | | 14 | 2 | 28¼ | 28¼ | 28¼ | |
| 58⅛ | 38¼ | Chrysir | 2.00 | 3.9 | 7 | 13350 | 53 | 50¾ | 51⅜ | -1⅞ |
| 98⅞ | 76⅛ | Chubb x | 1.96 | 2.1 | 13 | 1737 | 95¾ | 94⅝ | 95 | +½ |
| 108 | 82¼ | Cigna | 3.04 | 2.8 | 9 | 4380 | u108 | 106⅜ | 107⅝ | +1¾ |
| 8 | 6⅜ | Cigna H I x | 0.81 | 10.3 | | 208 | u8 | 7⅞ | 7⅞ | |
| 38⅜ | 31⅞ | Cilcorp In | 2.46 | 6.4 | 15 | 65 | u38¾ | 38¼ | 38⅝ | +¼ |
| 28⅛ | 16⅞ | Cinn Bell | 0.80 | 3.0 | 191 | 222 | 27 | 26¾ | 26⅞ | |
| 33⅝ | 19⅞ | CinMil | 0.36 | 1.2 | 21 | 935 | 29⅞ | 28⅞ | 29⅜ | -⅞ |
| 2⅞ | 1¾ | Cineplex O | | | 7 | 122 | 2 | 1⅞ | 2 | |
| 28 | 23⅜ | Cinergy | 1.72 | 6.1 | 24 | 4894 | u28⅛ | 27¾ | 28⅛ | +⅛ |
| 34⅞ | 27 | Cipsco | 2.04 | 5.8 | 15 | 241 | u35⅛ | 34½ | 35⅛ | +⅜ |
| 37⅛ | 21 | Circuit Ct x | 0.12 | 0.4 | 17 | 5605 | 31⅜ | 30⅝ | 31 | -½ |
| 35⅛ | 23½ | Circus Cir | | | 20 | 7813 | 27½ | 26⅛ | 26⅝ | -⅝ |
| 72½ | 38½ | Citicp | 1.20 | 1.7 | 9 | 13591 | 72⅛ | 71⅛ | 71⅝ | +½ |
| 88¼ | 71¼ | CtcpPf2Ad | 6.00 | 6.9 | | 24 | 87½ | 87⅛ | 87½ | +⅜ |
| 99 | 82½ | CtcpPf3Ad | 7.00 | 7.1 | | 10 | 98½ | 98½ | 98½ | |
| 13¾ | 10¼ | Ctzn Utl A | | | 14 | 1144 | 11 | 10¾ | 11 | +¼ |
| 13¾ | 10½ | Ctzn Utl B | 1.52 | 14.1 | 5 | 890 | 11 | 10¾ | 10¾ | |
| 15⅜ | 9¾ | City Natnl | 0.28 | 2.1 | 14 | 1023 | 13¼ | 12⅝ | 13¼ | +⅜ |
| 14¼ | 6⅜ | CKE | 0.08 | 0.6 | 52 | 565 | 13¼ | 13 | 13⅛ | -⅛ |
| 23 | 11¼ | Claires St | 0.12 | 0.6 | 17 | 1179 | 21⅝ | 21 | 21½ | +½ |
| 24¾ | 14 | Clayton Hm x | 0.08 | 0.3 | 21 | 2831 | 24⅝ | 23⅞ | 24⅜ | +½ |
| 8¾ | 7⅝ | Clemente G | 0.36 | 4.3 | | 122 | 8⅜ | 8¼ | 8⅜ | +⅛ |
| 78½ | 63 | Cleve7.56 | 7.56 | 9.7 | | 2 | 77¾ | 77¾ | 77¾ | +¼ |
| 46¾ | 36⅛ | ClevCli | 1.30 | 3.4 | 8 | 2905 | 39⅝ | 38½ | 38¾ | -1 |
| 80½ | 62 | Clevld El | 7.40 | 9.7 | | z50 | 76 | 76 | 76 | -1 |
| 73⅜ | 55¼ | Clorox | 2.12 | 3.0 | 18 | 1375 | 70¼ | 69½ | 70⅛ | +⅛ |
| 11⅛ | 6¾ | CML Group | 0.10 | 1.5 | 21 | 1394 | 6⅞ | d6⅝ | 6¾ | |
| 11⅛ | 9⅛ | CNA Income x | 1.00 | 9.9 | | 9 | 10¼ | 10⅛ | 10⅛ | -⅛ |
| 18½ | 13⅜ | Coachmen | 0.28 | 1.7 | 7 | 276 | 16⅝ | 16½ | 16½ | -⅛ |
| 28⅛ | 13½ | Coast Sav | 0.32 | 1.2 | 69 | 300 | 26⅜ | 26 | 26⅜ | +⅛ |
| 34¼ | 25⅛ | Coastl | 0.40 | 1.2 | 16 | 1330 | 33⅜ | 33 | 33¼ | -⅛ |
| 70⅝ | 48¾ | Coca C | 0.88 | 1.2 | 32 | 12042 | u71 | 69¼ | 70⅝ | +1½ |
| 25½ | 17¾ | CocaEn x | 0.05 | 0.2 | 38 | 1605 | 25⅜ | 24⅞ | 25 | |
| 21⅝ | 14½ | Coeur Daln | 0.15 | 0.7 | 167 | 119 | 20¼ | 20 | 20⅛ | +⅛ |
| 39⅞ | 31 | Coleman | | | 25 | 83 | 37¼ | 36⅝ | 37 | -⅜ |
| 77⅜ | 58 | ColgPa | 1.88 | 2.8 | 17 | 3732 | 66¾ | 66⅛ | 66⅝ | +⅜ |
| 10⅛ | 9⅜ | Colon Inv | 0.63 | 6.5 | | 26 | 9¾ | 9⅝ | 9¾ | +⅛ |
| 8 | 6⅞ | Colonial H x | 0.58 | 7.6 | | 77 | 7¾ | 7⅝ | 7⅝ | +⅛ |
| 7⅛ | 6 | Colonial I x | 0.70 | 10.1 | | 15 | 6⅞ | 6¾ | 6⅞ | |
| 7⅜ | 6⅜ | Colonial M x | 0.51 | 7.6 | | 200 | 6⅞ | 6¾ | 6¾ | |
| 39¾ | 23⅛ | ColGas | 2.32 | 6.0 | 8 | 677 | 38⅝ | 38⅜ | 38½ | -¼ |
| 49⅞ | 35⅜ | ColHCA | 0.12 | 0.3 | 22 | 8336 | 48⅝ | 47⅜ | 47⅞ | -¾ |
| 20⅛ | 16 | ColRR | 1.50 | 8.2 | 20 | 52 | 18¾ | 18⅜ | 18⅜ | -½ |
| 32½ | 22 | Comdisco | 0.36 | 1.2 | 21 | 771 | 29⅞ | 29⅜ | 29⅞ | |
| 36¾ | 24⅛ | Comerica | 1.40 | 3.9 | 10 | 1222 | 36 | 35⅝ | 35⅞ | |
| 22¼ | 15⅞ | Comintrlc | 0.54 | 3.0 | 10 | 224 | 18⅜ | 18 | 18 | -¼ |
| 29 | 24⅜ | Comml Met | 0.48 | 1.8 | 10 | 62 | 26¾ | 26½ | 26¾ | |
| 24¾ | 20⅞ | ComnEd1.9 x | 1.90 | 8.1 | | 35 | 23⅝ | 23¼ | 23½ | -⅜ |
| 25¾ | 21¾ | ComnEd2.00 x | 2.00 | 8.1 | 3 | 31 | 24⅞ | 24¾ | 24¾ | |
| 13¾ | 10⅛ | Commun Psy | 0.36 | 3.1 | 22 | 7175 | 11⅝ | 11⅛ | 11½ | |
| 54¾ | 31⅛ | Compaq | | | 14 | 17037 | 48 | 46⅞ | 47½ | -½ |
| 10 | 5 | CompCr | | | 1 | 45 | 9¾ | 9⅜ | 9⅜ | -¼ |
| 51¾ | 31¼ | CmpAcs | 0.13 | 0.3 | 16 | 17010 | 41½ | 39⅛ | 39⅜ | -1⅞ |
| 65⅜ | 46½ | CmpSci | | | 29 | 1761 | 64 | 63⅛ | 63½ | -½ |
| 16⅛ | 8⅛ | Comptr TGp | 0.10 | 0.7 | 21 | 35 | 15⅛ | 14⅞ | 15 | -⅛ |
| 24⅝ | 17⅝ | Comsat | 0.78 | 3.5 | 14 | 455 | 22½ | 22⅛ | 22⅛ | -⅛ |
| 40⅛ | 29¾ | CnAgra | 0.95 | 2.4 | 18 | 2414 | 40 | 39¾ | 40 | +⅛ |
| 25¼ | 21¾ | Connect NG | 1.48 | 6.5 | 14 | 195 | 22¾ | 22⅛ | 22⅝ | +½ |
| 20⅝ | 18½ | Connect En | 1.30 | 6.7 | 12 | 39 | 19½ | 19¼ | 19½ | +¼ |
| 19¼ | 9⅜ | ConnerPer | | | 11 | 2624 | 16¼ | 15½ | 16 | -¼ |
| 70¼ | 50½ | CnRail | 1.70 | 2.5 | 12 | 2764 | 69⅛ | 68⅛ | 68⅜ | -⅝ |
| 68 | 53½ | ConsE4.65 | 4.65 | 7.0 | | 4 | 66 | 66 | 66 | |
| 30⅞ | 25½ | ConsEd | 2.04 | 6.6 | 10 | 1485 | 30¾ | 30⅜ | 30¾ | +¼ |
| 69⅛ | 59 | Cons Ed Pf | 5.00 | 7.2 | | 5 | 69 | 68¾ | 69 | +¼ |
| 27 | 20¼ | CnsFrt | 0.40 | 1.6 | 14 | 1849 | 25⅛ | 24¾ | 24⅞ | -⅜ |
| 41 | 33⅝ | CnsNG | 1.94 | 4.8 | 677 | 1548 | 40⅝ | 40 | 40⅝ | +¼ |
| 64⅞ | 44⅞ | ConPap | 1.48 | 2.7 | 17 | 656 | 56 | 55⅝ | 55⅝ | -⅜ |
| 23⅞ | 15¾ | Cons Store | | | 19 | 1538 | u23⅞ | 23⅜ | 23⅞ | +⅜ |
| 53¼ | 32½ | Conseco | 0.08 | 0.2 | 7 | 366 | 52⅜ | 51⅝ | 51¾ | |
| 53 | 47 | CPwr 4.16 | 4.16 | 8.3 | | 2 | 50 | 50 | 50 | |
| 93 | 78 | CPwr 7.45 | 7.45 | 8.1 | | 2 | u93 | 92¼ | 92¼ | |
| 93 | 82 | Con P7.68 | 7.68 | 8.4 | | z30 | 91½ | 91½ | 91½ | |
| 12¼ | 6⅞ | Conx Hlds | 0.04 | 0.3 | | 74 | 12 | 11⅞ | 12 | +⅛ |
| 10¾ | 9⅞ | Conv H Pf | 1.24 | 12.1 | | 114 | 10¼ | 10⅛ | 10¼ | +⅛ |
| 8⅛ | 3⅝ | Convex Com | | | 4 | 283 | 4⅝ | 4½ | 4½ | |
| 11¼ | 5¼ | Cooper Cos | | | 16 | 219 | 7¾ | 7½ | 7⅝ | |
| 40½ | 33⅞ | Coopln | 1.32 | 3.8 | 14 | 1971 | 34⅞ | 34⅜ | 34½ | -⅜ |
| 29⅝ | 22⅞ | Cooper T&R | 0.30 | 1.2 | 16 | 1128 | 24⅝ | 24⅛ | 24⅝ | +⅜ |
| 12⅝ | 9¾ | Core Ind | 0.24 | 2.1 | 11 | 144 | 11⅞ | 11⅝ | 11⅝ | |
| 38⅞ | 25⅝ | Crstat | 1.38 | 3.7 | 13 | 1523 | 37¼ | 36⅞ | 37¼ | +⅛ |
| 37⅜ | 27⅝ | Crning | 0.72 | 2.6 | 59 | 7308 | 28 | d27¼ | 27¾ | -⅜ |
| 16⅜ | 12¾ | Counsir Tm | 0.12 | 0.7 | | 13 | 16¼ | 16¼ | 16¼ | |
| 24¾ | 12⅝ | Country Cr | 0.32 | 1.3 | 18 | 927 | 24⅛ | 23⅞ | 23⅞ | |
| 18⅜ | 16½ | CousinsPr | 0.96 | 5.3 | 26 | 126 | 18⅛ | 18⅛ | 18⅛ | |
| 10⅞ | 8¾ | Craig | | | 85 | 3 | 9⅜ | 9⅜ | 9⅜ | |
| 39½ | 25⅞ | Crane | 0.75 | 2.2 | 15 | 1009 | 34⅜ | 33¾ | 33⅞ | -⅛ |
| 17¾ | 14½ | Crawford | 0.54 | 3.4 | 15 | 141 | 15¾ | 15½ | 15¾ | -⅛ |
| 29¼ | 14⅝ | CrayRe | | | 3 | 381 | 22½ | 22⅛ | 22½ | +⅛ |
| 58⅜ | 37 | CrstFo | 1.80 | 3.2 | 11 | 874 | 55¾ | 55⅛ | 55¾ | +½ |
| 8⅞ | 6¾ | CrIM | 0.94 | 11.1 | 11 | 189 | 8½ | 8⅜ | 8½ | |
| 5 | 3¼ | CRI Liq Re | 0.40 | 11.4 | 7 | 17 | 3½ | 3½ | 3½ | |
| 20 | 13⅜ | Crompton&K | 0.54 | 4.1 | 13 | 12701 | 14 | d12¾ | 13¼ | -1⅜ |
| 50½ | 35 | CrwnCS | | | 28 | 3538 | 39¼ | 38¾ | 39 | -¼ |
| 7¾ | 6⅞ | CSFstB | 0.72 | 9.4 | | 83 | u7¾ | 7½ | 7⅝ | |
| 8⅞ | 8⅛ | CSFBoStr x | 0.81 | 9.5 | | 14 | 8⅝ | 8½ | 8½ | -⅛ |
| 35⅝ | 21¾ | CUC Ind | | | 46 | 5457 | 35¼ | 34¾ | 35⅛ | -⅜ |
| 42⅞ | 11¾ | Culbro | 0.80 | 2.0 | 18 | 88 | 40⅝ | 40⅛ | 40⅞ | -⅜ |
| 48⅝ | 36⅝ | CumEn | 1.00 | 2.7 | 5 | 2311 | 37½ | d36⅝ | 36⅝ | -½ |
| 12 | 11 | Currnt In | 0.88 | 7.5 | 13 | 13 | 11⅞ | 11¾ | 11¾ | |
| 45½ | 35⅛ | CrtsWr | 1.00 | 2.3 | 12 | 7 | 44¼ | 44 | 44 | |
| 9⅞ | 8⅞ | CV Reit | 1.08 | 11.4 | 8 | 57 | 9½ | 9½ | 9½ | |
| 39½ | 14½ | Cycare Sys | | | 42 | 65 | 32½ | 32⅛ | 32⅛ | -⅜ |
| 55½ | 21½ | CyprSm | | | 24 | 6305 | 38⅜ | 36 | 36⅜ | -1¼ |
| 32⅛ | 24¾ | CypAmx | 0.80 | 2.9 | 7 | 1394 | 27⅝ | 27⅛ | 27¼ | -⅜ |
| 61⅞ | 31¾ | Cytec | | | 11 | 172 | 57¾ | 56⅞ | 57 | -⅜ |

### - D -

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 23⅝ | 20⅛ | DPL Holdg | 1.24 | 5.2 | 15 | 4070 | u23⅞ | 23⅛ | 23¾ | +½ |
| 24¾ | 15 | Dallas Sem | 0.10 | 0.5 | 16 | 1579 | 20¼ | 19⅜ | 19⅜ | -¾ |
| 32⅝ | 21⅜ | Dana | 0.92 | 3.3 | 10 | 1552 | 28½ | 27⅜ | 27½ | -1 |
| 34⅜ | 24¼ | Danaher Co | 0.08 | 0.2 | 19 | 250 | 32⅛ | 31⅞ | 32 | -¼ |
| 16½ | 12⅝ | Daniel Ind | 0.18 | 1.2 | 26 | 18 | 14⅞ | 14⅞ | 14⅞ | -⅛ |
| 11¾ | 9¾ | Darden | 0.08 | 0.7 | | 3807 | 11½ | 11¼ | 11½ | |
| 11¼ | 6¾ | DataGn | | | 6 | 548 | 10⅜ | 10 | 10⅛ | -⅛ |
| 2⅜ | 1 | Datapoint | | | 0 | 250 | 1¾ | 1⅝ | 1⅝ | -⅛ |
| 17¼ | 8¼ | Davis W&W | 0.56 | 3.6 | 12 | 7 | 15⅜ | 15⅜ | 15⅜ | |
| 80½ | 63¼ | DaytnH | 1.76 | 2.4 | 14 | 2988 | 75¼ | 73⅝ | 74⅜ | -1 |
| 2⅛ | 1 | DDL El | | | 12 | 87 | 2 | 1⅞ | 1⅞ | |
| 6¼ | 3 | De Soto | 0.14 | 2.8 | 41 | 118 | 5⅛ | 5 | 5 | -⅛ |
| 31¾ | 26¼ | Dean Foods | 0.72 | 2.6 | 14 | 745 | 28⅝ | 27⅞ | 28 | -½ |
| 58¼ | 33½ | DeanWD | 0.64 | 1.2 | 11 | 4381 | 54⅝ | 53⅞ | 54¼ | +⅛ |
| 8½ | 7⅝ | DeanWGv | 0.60 | 7.3 | | 328 | 8¼ | 8⅛ | 8¼ | |
| 104½ | 65 | Deere x | 2.40 | 2.9 | 9 | 4747 | 83¼ | 82 | 83¼ | +1 |
| 23 | 17⅞ | DelmPL | 1.54 | 6.6 | 15 | 562 | u23⅝ | 23 | 23½ | +½ |
| 81¼ | 50¼ | DltaAir | 0.20 | 0.3 | 16 | 7117 | 69⅝ | 68⅝ | 68⅝ | -1 |
| 11⅜ | 7½ | Delta Wdsd | 0.40 | 5.3 | 17 | 134 | 7⅝ | d7½ | 7½ | |
| 34 | 25¾ | Deluxe | 1.48 | 4.5 | 19 | 1626 | 33⅜ | 32⅝ | 33 | -⅜ |
| 99 | 81½ | DetrEd7.45 | 7.45 | 7.7 | | z20 | 97 | 97 | 97 | |
| 102½ | 86 | DetrEd7.68 | 7.68 | 7.9 | | z60 | 97 | 97 | 97 | |
| 32⅝ | 25¾ | DetrEd | 2.06 | 6.3 | 11 | 1850 | u32⅝ | 32⅛ | 32½ | +⅜ |
| 25⅞ | 20⅜ | Dexter Crp | 0.88 | 3.6 | 14 | 983 | 25½ | 24¼ | 24½ | -1 |
| 44⅞ | 24¼ | Diag Prods | 0.48 | 1.2 | 24 | 67 | 38⅝ | 38⅜ | 38½ | |
| 26⅜ | 20⅞ | DialDel | 0.64 | 2.6 | 14 | 1382 | 24⅞ | 24⅝ | 24¾ | -¼ |
| 28⅞ | 23⅛ | Diamond Sh | 0.56 | 2.3 | 10 | 414 | 24¾ | 24⅜ | 24½ | -¼ |
| 13⅞ | 4 | Diana Corp | | | 131 | 476 | 13⅛ | 11⅞ | 11⅞ | -1⅛ |
| 49⅜ | 33 | Diebold | 0.96 | 2.1 | 20 | 176 | 46½ | 46⅛ | 46¼ | -⅛ |
| 49½ | 31⅛ | DigitE | | | 298 | 7874 | 45 | 44¼ | 44¾ | -⅝ |
| 33⅞ | 24 | Dillrd x | 0.12 | 0.4 | 14 | 1562 | 32¼ | 31⅞ | 32⅛ | |
| 62¾ | 45 | Disney | 0.36 | 0.6 | 22 | 5811 | 57⅜ | 56⅝ | 56⅞ | -⅛ |
| 35⅛ | 23 | DoleFd | 0.40 | 1.2 | 19 | 276 | 34⅞ | 34⅜ | 34½ | |
| 39¼ | 34⅞ | DomRes | 2.58 | 6.7 | 17 | 1193 | 38¼ | 37⅞ | 38¼ | +⅜ |
| 10⅞ | 6¾ | Domtar Inc | 0.25 | 2.7 | 7 | 150 | 9¼ | 9⅛ | 9¼ | +⅛ |
| 28 | 22½ | Donaldson | 0.28 | 1.1 | 16 | 561 | 24⅝ | 24¼ | 24⅜ | -¼ |
| 41¼ | 28⅞ | Donnly | 0.72 | 1.8 | 21 | 1791 | 39½ | 38⅞ | 39 | |
| 41¾ | 25¾ | Dover | 0.60 | 1.6 | 17 | 1584 | 38 | 37⅝ | 37⅞ | +⅛ |
| 78 | 61⅜ | Dow Ch x | 3.00 | 4.1 | 14 | 8395 | 74⅛ | 73 | 73⅝ | -⅛ |
| 38½ | 30⅝ | DowJns | 0.92 | 2.5 | 19 | 689 | 37½ | 36⅝ | 37 | -⅜ |
| 22 | 14⅞ | DwneyFin | 0.48 | 2.3 | 17 | 363 | 20½ | 20 | 20½ | +½ |
| 26¾ | 19 13/16 | DQE | 1.20 | 4.5 | 12 | 436 | u27 | 26½ | 26¾ | |
| 14¾ | 10 | Dravo | 0.62 | 5.0 | 32 | 301 | 12⅝ | 12⅜ | 12½ | -⅛ |
| 25⅛ | 18½ | Dresser | 0.68 | 2.8 | 21 | 2388 | 24 | 23¾ | 23⅞ | |
| 9½ | 8⅜ | Drfus Fd S | 0.62 | 6.9 | | 1004 | 9 | 8⅞ | 9 | |
| 9¾ | 8⅝ | Drfus St G | 0.75 | 8.1 | | 409 | 9¼ | 9⅛ | 9¼ | +⅛ |
| 10¼ | 9⅛ | Drfus St M | 0.67 | 7.1 | | 219 | 9⅝ | 9½ | 9½ | |
| 72 | 56¾ | Du Pont4.5 | 4.50 | 6.3 | | 4 | 71 | 71 | 71 | +¼ |
| 13¼ | 8⅜ | DuffPhlps | 0.20 | 1.9 | 14 | 75 | 10¾ | 10¾ | 10¾ | |
| 43¾ | 37⅜ | DukePw | 2.04 | 4.6 | 14 | 2720 | u44 | 43⅜ | 44 | +½ |
| 31⅝ | 25⅛ | Duke Rlty | 1.96 | 6.3 | 19 | 290 | 31 | 30⅝ | 30⅞ | +⅛ |
| 59⅛ | 48½ | DunBrd | 2.64 | 4.5 | 15 | 1472 | 58⅞ | 58¼ | 58⅝ | -⅛ |
| 73 | 52⅝ | DuPont | 2.08 | 3.2 | 13 | 11504 | 67⅝ | 65⅝ | 66 | -1¼ |
| 27½ | 23 | Duql. 4.1 | 2.05 | 7.6 | | 2 | 27 | 27 | 27 | |
| 26 | 22 | Duqsne3.75 | 1.88 | 7.2 | | 3 | u26 | 25½ | 26 | |
| 27½ | 22½ | Duqsne4.00 | 2.00 | 7.3 | | z60 | u27½ | 27½ | 27½ | |
| 28 | 24 | Duql. 4.2 | 2.10 | 7.5 | | z30 | d28 | 28 | 28 | |
| 47⅜ | 36¾ | Duracell | 1.04 | 2.2 | 24 | 7478 | u48 | 47⅛ | 48 | +2⅞ |
| 14 | 10⅝ | DVI Hth Sv | | | 21 | 144 | 13⅛ | 12¾ | 13⅛ | +⅛ |
| 26¾ | 19½ | Dynamics | 0.20 | 0.9 | 16 | 18 | 23¼ | 22⅞ | 23¼ | +¼ |

### - E -

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 13¼ | 10 | ECC Intl | 0.20 | 1.7 | 12 | 152 | 12 | 11¾ | 11⅞ | |
| 20 | 13 | EG&G | 0.56 | 2.9 | 40 | 535 | 19⅝ | 19¼ | 19⅜ | -⅛ |
| 25⅛ | 21¼ | East Utils | 1.60 | 6.4 | 12 | 235 | 24⅞ | 24½ | 24⅞ | +⅜ |
| 32⅝ | 25¼ | E Entp | 1.40 | 4.3 | 14 | 284 | 32¼ | 31⅝ | 32¼ | +⅛ |
| 69½ | 48½ | EastCh | 1.68 | 2.6 | 10 | 2292 | 64⅛ | 63½ | 63⅞ | -¼ |
| 64½ | 47¼ | EKodak | 1.60 | 2.6 | 27 | 4422 | 60¾ | 59⅜ | 60½ | -⅛ |
| 62½ | 45¼ | Eaton | 1.60 | 3.0 | 10 | 4634 | 53½ | 52⅝ | 52⅝ | -⅜ |
| 39⅝ | 29⅞ | Echlin | 0.82 | 2.2 | 14 | 3402 | 36½ | 35⅝ | 36½ | +½ |
| 28⅛ | 20 | Ecolab Inc | 0.50 | 1.8 | 21 | 264 | 27⅜ | 27¼ | 27⅜ | +⅛ |
| 18½ | 2⅞ | Edison Bro | 0.44 | 8.0 | 8 | 1827 | 5⅝ | 5¼ | 5½ | -⅛ |
| 26¾ | 17½ | Edwards | 0.56 | 2.1 | 11 | 1077 | 26⅝ | 26¼ | 26⅜ | -⅛ |
| 6⅞ | 5⅝ | Ekco Group | 0.08 | 1.3 | 12 | 40 | 6¼ | 6⅛ | 6¼ | |
| 43⅝ | 32⅞ | Elan ADR | | | 20 | 971 | 42 | 41 | 41¼ | -⅝ |
| 23⅞ | 13 | Elcor Corp | 0.24 | 1.3 | 17 | 2318 | 19⅜ | 18⅞ | 19 | -⅛ |
| 11¾ | 5⅝ | Elect Ass | | | 3 | 785 | 5⅞ | d5½ | 5½ | -⅜ |
| 42⅛ | 33 | ElfAqui | 1.00 | 3.0 | 49 | 467 | 34 | 33⅝ | 33¾ | |
| 6¾ | 4⅛ | Eljer | | | 1 | 51 | 4⅝ | 4⅝ | 4⅝ | -⅛ |
| 3½ | 1¾ | Elscint | | | 18 | 112 | 2¾ | 2⅝ | 2¾ | |
| 27⅜ | 14¾ | EMC Corp | 0.52 | 3.0 | 12 | 12636 | 18 | 17⅜ | 17½ | -½ |
| 8⅛ | 6¾ | Emerg Germny | 0.12 | 1.7 | | 127 | 7¼ | 7⅛ | 7⅛ | -⅛ |
| 75⅜ | 61½ | EmerEl | 1.96 | 2.7 | 18 | 4307 | 71⅞ | 71⅛ | 71½ | +½ |
| 6⅝ | 5½ | EmprDi4.75 | 0.47 | 7.9 | | 10 | 6 | 6 | 6 | |
| 18¾ | 16 | Empire Dis | 1.28 | 6.9 | 14 | 163 | 18⅝ | 18⅜ | 18½ | |
| 19⅝ | 8 | Employ Ben | | | 35 | 111 | 19½ | 19¼ | 19⅜ | |
| 15¾ | 3⅞ | EmpresICA | 0.09 | 0.9 | 5 | 19077 | 10¾ | 9⅝ | 10 | -½ |
| 55 | 37 | Endesa ADR | 0.92 | 1.8 | 15 | 157 | 51 | 50⅛ | 50¾ | -½ |
| 23½ | 20⅛ | Energen Co | 1.16 | 5.3 | 11 | 66 | 21¾ | 21½ | 21¾ | +⅛ |
| 32½ | 15 | Enghrd | 0.36 | 1.4 | 28 | 2389 | 25½ | 24⅝ | 25⅛ | -¼ |
| 14 | 12⅛ | Ennis Busn | 0.60 | 4.6 | 11 | 286 | 13⅛ | 13 | 13⅛ | -⅜ |
| 491 | 393 | Enron 10.5 | 10.92 | 2.3 | | z100 | 466 | 466 | 466 | |
| 36⅞ | 28⅛ | Enron | 0.80 | 2.3 | 17 | 4871 | 34⅞ | 34⅜ | 34⅝ | +⅛ |
| 25⅜ | 17⅜ | Enron O&G | 0.12 | 0.5 | 22 | 739 | 22¾ | 22¼ | 22⅝ | +¼ |
| 95⅜ | 87 | EnschAJPE | 7.00 | 7.4 | | 2 | 94½ | 94 | 94½ | |
| 18⅝ | 12⅝ | Ensrch | 0.20 | 1.2 | 17 | 6485 | 16⅝ | 16¼ | 16¼ | -⅜ |
| 26⅞ | 20 | Entrgy | 1.80 | 6.6 | 16 | 7385 | u27¼ | 26¼ | 27⅛ | +¾ |
| 25¼ | 14¾ | Enterra Co | | | 243 | 81 | 22 | 21⅞ | 21⅞ | -⅛ |
| 2¼ | 1⅜ | EQK Realty | 1.10 | 55.0 | 4 | z100 | 2 | 2 | 2 | +⅛ |
| 42⅛ | 25¼ | Equifax | 0.62 | 1.5 | 23 | 1058 | 41¾ | 41⅛ | 41⅜ | +⅜ |
| 26½ | 17 | EquitCos | 0.20 | 0.9 | 12 | 4213 | 24⅛ | 22⅞ | 22⅞ | -1¼ |
| 31¼ | 25⅞ | Equitable | 1.18 | 4.1 | 22 | 240 | 29½ | 29⅛ | 29⅛ | |
| 30⅜ | 12½ | Esterline | | | 10 | 107 | 27⅛ | 26¼ | 26½ | -½ |
| 72⅜ | 9½ | Ethyl | 0.50 | 4.5 | 16 | 1880 | 11¼ | 11 | 11⅛ | |
| 13½ | 10⅝ | Europe Fd | 0.96 | 7.5 | | 491 | 13 | 12¾ | 12¾ | |
| 16⅜ | 14½ | Excelsior | 1.04 | 6.5 | | 5 | 16 | 16 | 16 | |
| 60 | 38⅝ | Exel | 1.60 | 2.8 | 15 | 2809 | 57¾ | 57¼ | 57⅝ | -⅛ |
| 74¼ | 60¼ | Exxon | 3.00 | 4.1 | 14 | 7459 | 72⅜ | 71⅝ | 72⅜ | +½ |

### - F -

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 2¾ | 1⅞ | FAI Insur | 0.08 | 3.1 | 30 | 102 | 2⅛ | 2⅛ | 2⅛ | -⅛ |
| 15 | 13¼ | FT Dearbn | 1.12 | 7.8 | | 89 | 14¾ | 14⅝ | 14¾ | +⅛ |
| 26½ | 13¼ | FabrCtAmA | | | 16 | 143 | 15½ | 15⅛ | 15¼ | -¼ |
| 41 | 35½ | Frchld 3. | 3.60 | 9.1 | | 2 | 39½ | 39½ | 39½ | |
| 8¼ | 6⅛ | Fansteel | 0.40 | 5.7 | 16 | 33 | 7⅛ | 7 | 7 | |
| 9 | 6 | Farah Inc | | | 8 | 72 | 7⅝ | 7½ | 7⅝ | |
| 9⅜ | 6¼ | Fays Drug x | 0.20 | 2.5 | 16 | 171 | 8⅛ | 8 | 8 | -⅛ |
| 73⅛ | 49⅞ | Fed Hm Ln | 1.20 | 1.7 | 13 | 2809 | 69⅛ | 67⅝ | 69⅛ | +1⅛ |
| 23⅝ | 19¾ | Fed Rlty x | 1.64 | 7.2 | 31 | 364 | 23¼ | 22⅞ | 22⅞ | -¼ |
| 7⅞ | 5⅜ | Fedders | 0.08 | 1.3 | 7 | 942 | 6⅛ | 6 | 6⅛ | -⅛ |
| 84 | 58½ | FedExp | | | 14 | 1630 | 83⅛ | 82⅜ | 82⅝ | -¾ |
| 22¾ | 16¾ | FedMgl | 0.48 | 2.6 | 13 | 1205 | 18⅞ | 18½ | 18½ | -⅜ |
| 106 | 68¾ | FedNtM | 2.72 | 2.6 | 13 | 8887 | 105⅝ | 103¼ | 105½ | +1⅞ |
| 45 | 26⅝ | FedPBd x | 1.60 | 4.2 | 10 | 7306 | 38⅞ | 38 | 38¼ | -½ |
| 24⅛ | 19⅝ | Federal Sg | 0.50 | 2.3 | 19 | 395 | 21⅞ | 21⅝ | 21⅞ | +¼ |
| 30⅛ | 18 | FedDepSt | | | 75 | 4492 | 28⅞ | 28¼ | 28¾ | -⅛ |
| 30⅝ | 23⅛ | Ferro Corp | 0.54 | 2.2 | 14 | 588 | 24¾ | 24⅜ | 24⅜ | -¼ |
| 25⅜ | 19¾ | FldCan | | | 11 | 611 | 21⅛ | 20⅛ | 20⅜ | -⅞ |
| 38⅝ | 17¾ | Fila | 0.15 | 0.4 | 21 | 37 | 35 | 34¾ | 34⅞ | |
| 17⅞ | 10⅞ | Fingerhut | 0.16 | 1.0 | 24 | 1035 | 15⅞ | 15½ | 15⅝ | -⅛ |
| 45¼ | 29⅝ | First Am B | 1.76 | 4.0 | 12 | 1119 | 44½ | 42¾ | 44½ | +1⅝ |
| 48⅜ | 32⅝ | FstBkS | 1.45 | 3.0 | 12 | 518 | 48¼ | 47⅝ | 48¼ | |
| 18¾ | 10⅞ | FstBksAsn | | | 31 | 11 | d10⅞ | 11 | 11 | +⅛ |
| 45⅛ | 32¾ | First Brnd x | 0.40 | 0.9 | 19 | 178 | 44⅞ | 44⅝ | 44¾ | |
| 87 | 72¼ | FstChACPB | 6.00 | 6.9 | | 13 | u87 | 86½ | 86⅝ | |
| 95½ | 86 | FstCHacpC | 6.50 | 6.8 | | 2 | u95½ | 95½ | 95½ | |
| 69 | 45 | FstChig | 2.40 | 3.5 | 9 | 8143 | u69⅜ | 68⅜ | 69⅜ | +¾ |
| 68⅛ | 44¼ | FstFid | 2.00 | 3.0 | 12 | 2664 | 68 | 67⅛ | 67½ | -¼ |
| 53 | 34¼ | Fst Fd 2.1 | 2.15 | 4.1 | | 19 | 52¾ | 52½ | 52½ | -¼ |
| 16½ | 10 | First Fnl | 0.03 | 0.2 | | 333 | 14½ | 14⅛ | 14⅜ | -¼ |
| 99⅜ | 60¾ | First Fn M | 0.10 | 0.1 | 35 | 1948 | 98½ | 98 | 98¼ | +½ |
| 103 | 67¼ | FstInt | 3.20 | 3.2 | 10 | 6398 | 102⅝ | 100⅛ | 100½ | -⅜ |
| 40⅛ | 20⅜ | FstMis | 0.40 | 1.0 | 13 | 2015 | 39¾ | 38¾ | 39⅛ | -⅝ |
| 19½ | 13⅝ | Fst Phil F | 1.25 | 7.8 | | 134 | 16 | 15⅞ | 16 | -⅛ |
| 51½ | 41⅜ | Fst Union | 2.08 | 4.0 | 9 | 4100 | u51½ | 51 | 51½ | +⅜ |
| 8⅝ | 6½ | FstUnR x | 0.40 | 5.2 | 21 | 88 | 7⅝ | 7½ | 7⅝ | |
| 55⅛ | 32 | FrstUSA | 0.24 | 0.4 | 19 | 1210 | 54 | 52¾ | 53¾ | |
| 43 | 32 | First Virg x | 1.36 | 3.3 | 12 | 85 | 41 | 40⅞ | 41 | +⅛ |
| 38⅜ | 26¼ | Firstar Co | 1.36 | 3.7 | 12 | 729 | 37⅝ | 37 | 37¼ | |
| 39⅜ | 29⅞ | FleetF | 1.60 | 4.2 | 9 | 3568 | 38¾ | 38 | 38½ | -⅛ |
| 24⅛ | 17¾ | FlwdEn | 0.60 | 3.0 | 12 | 2136 | 20⅜ | 19¾ | 20⅛ | +½ |
| 29⅞ | 19⅛ | FlemOk | 1.20 | 5.1 | 18 | 1888 | 24½ | 23⅝ | 23⅝ | -¾ |
| 49½ | 37½ | Flghtsfty | 0.56 | 1.2 | 17 | 439 | 46 | 44⅞ | 45⅛ | -⅞ |
| 32⅝ | 29⅜ | FlaPrg | 2.02 | 6.2 | 13 | 860 | u32¾ | 32½ | 32¾ | +¼ |
| 21¾ | 16⅞ | Flowers | 0.84 | 4.1 | 18 | 464 | 20⅝ | 20⅜ | 20½ | |
| 42½ | 27¾ | Fluke | 0.60 | 1.6 | 17 | 30 | 37⅝ | 37 | 37 | -⅞ |
| 59½ | 42¾ | Fluor x | 0.60 | 1.1 | 21 | 2476 | 57¼ | 56¼ | 56¾ | +⅜ |
| 80 | 57⅛ | FMC Cp | | | 14 | 933 | 75⅜ | 73¾ | 75 | -⅜ |
| 6¾ | 2¾ | FMC Gd | 0.05 | 1.0 | 36 | 20 | 5⅛ | 5 | 5⅛ | +⅛ |
| 30⅛ | 14⅝ | Foothill G | 0.40 | 1.4 | 16 | 617 | 29⅝ | 29 | 29⅜ | -⅜ |
| 32⅞ | 22⅛ | Ford | 1.24 | 4.1 | 5 | 26912 | 31¼ | 30⅛ | 30⅜ | -½ |
| 9½ | 8¼ | Fortis x | 0.80 | 9.1 | | 354 | 8⅞ | 8¾ | 8⅞ | +⅛ |
| 39½ | 29⅜ | FostWh | 0.78 | 2.2 | 18 | 682 | 36¼ | 36 | 36¼ | -⅛ |
| 25¾ | 14⅜ | FxHlth | | | 15 | 492 | 22⅝ | 22¼ | 22⅜ | -¼ |
| 47⅛ | 34⅛ | FPL | 1.76 | 4.3 | 13 | 3134 | 41 | 40¾ | 41 | +⅛ |
| 11⅛ | 8⅝ | France Gro | 0.01 | 0.1 | | 143 | 9¾ | 9⅝ | 9⅝ | |
| 7½ | 6⅜ | Franld Pr x | 0.54 | 7.4 | | 70 | 7⅜ | 7¼ | 7¼ | |
| 58 | 33 | Frankl Rs x | 0.40 | 0.7 | 18 | 1283 | 56⅞ | 56 | 56¼ | -½ |
| 33⅜ | 23½ | FredMeyer | | | 50 | 438 | 24⅝ | 24½ | 24⅝ | -⅛ |
| 6¼ | 4 | FrHwdA | 0.10 | 1.9 | | 6 | 5¼ | 5¼ | 5¼ | -⅛ |
| 6½ | 3½ | FrHwdB | 0.10 | 1.9 | 525 | 5 | 5¼ | 5¼ | 5¼ | -⅛ |
| 24¾ | 4½ | FreMcM | 0.08 | 1.1 | 15 | 18840 | 5⅜ | 5½ | 5⅝ | |
| 26¾ | 19⅞ | FrMCGA | 0.60 | 2.4 | 37 | 3025 | 25¼ | 25¼ | 25⅜ | -⅛ |
| 27⅛ | 22⅞ | FrMCGB | | | | 951 | 25¾ | 25¼ | 25⅝ | -⅛ |
| 28¾ | 17¼ | FremGn x | 0.80 | 2.9 | 7 | 521 | 27¼ | 26⅞ | 27¼ | -⅛ |
| 28⅝ | 19¼ | Frontr | 0.83 | 3.1 | 17 | 5325 | 26⅞ | 25⅞ | 26¾ | +⅛ |
| 27¾ | 19⅞ | FrLoom | | | 30 | 1077 | 21¼ | 20⅞ | 21 | +⅛ |
| 78 | 68⅛ | FdAmEn | 0.68 | 0.9 | 18 | 126 | 72⅝ | 71¾ | 71¾ | -¾ |
| 24⅜ | 23½ | Fuqua Ent | | | 10 | 31 | 24 | 23¾ | 24 | +⅛ |

### - G -

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 63 | 50½ | GATX 3.875 | 3.88 | 6.4 | | 19 | 61½ | 60⅛ | 61 | +½ |
| 54¼ | 40⅜ | GATX | 1.60 | 3.1 | 11 | 312 | 52½ | 52⅛ | 52¼ | +⅜ |
| 68⅞ | 47⅝ | GEICO | 1.08 | 1.6 | 20 | 170 | 68⅜ | 68¼ | 68¼ | -⅛ |
| 26⅜ | 11⅜ | GRC Intl | | | 43 | 196 | 23⅜ | 22⅞ | 23⅜ | +¼ |
| 39½ | 30⅛ | GTE | 1.88 | 4.8 | 15 | 14147 | 39⅛ | 38½ | 38⅞ | -⅛ |
| 18½ | 15¼ | GTE F 1.25 | 1.25 | 6.8 | | z100 | u18½ | 18½ | 18½ | +½ |
| 10¼ | 9⅜ | GabelliEq | 1.00 | 10.3 | | 661 | 9⅞ | 9¾ | 9¾ | -⅛ |
| 38 | 30⅛ | Gallghr x | 1.00 | 2.8 | 14 | 137 | 35⅜ | 34⅞ | 35 | -⅜ |
| 19⅜ | 11⅛ | Galoob Lw | 1.70 | 9.2 | | 2 | 18½ | 18½ | 18½ | |
| 56⅜ | 49½ | Ganntt | 1.40 | 2.6 | 15 | 2648 | 54⅝ | 53 | 53⅝ | -⅜ |
| 37⅜ | 29⅞ | Gapinc | 0.48 | 1.3 | 17 | 2755 | 36¼ | 35⅞ | 36 | -⅛ |
| 35¼ | 26 | GC Cos | | | 23 | 90 | 32¼ | 31⅞ | 31⅞ | -½ |
| 11⅜ | 10⅜ | Gemini I I | 1.40 | 12.7 | | 163 | 11 | 11 | 11 | |
| 24¾ | 17⅜ | Gemini II | 0.30 | 1.3 | 9 | 264 | 23⅝ | 23¼ | 23½ | -¼ |
| 14⅛ | 10 | Gncorp | 0.60 | 5.7 | 160 | 377 | 10¾ | 10½ | 10½ | -⅛ |
| 21⅜ | 18¾ | GnAInv | 0.12 | 0.6 | | 199 | 21 | 20⅞ | 20⅞ | |
| 58⅛ | 42⅜ | GenDyn | 1.50 | 2.8 | 14 | 658 | 54⅛ | 53⅜ | 53¾ | -¼ |
| 64⅝ | 49⅞ | GenElec x | 1.64 | 2.6 | 17 | 18840 | 63¾ | 62⅞ | 63¼ | -¼ |
| 7⅝ | 4.05 | Gen Host | 0.38 | 6.5 | 11 | 295 | 6 | 5⅞ | 5⅞ | |
| 16⅜ | 10⅜ | Gen House | 0.32 | 3.1 | 12 | 60 | 10½ | d10¼ | 10¼ | -¼ |
| 84½ | 49¾ | GnMill | 1.88 | 3.3 | 30 | 2920 | 56⅜ | 55⅞ | 56⅜ | +¼ |
| 51⅞ | 37⅜ | GenMtr | 1.20 | 2.6 | 6 | 15914 | 46 | 45⅛ | 45⅜ | -1¼ |
| 47½ | 36⅞ | GnMtrE | 0.52 | 1.2 | 24 | 5530 | 45¾ | 45 | 45 | -½ |
| 42⅝ | 33¼ | GnMtrH | 0.92 | 2.3 | 15 | 2725 | 41¼ | 40⅜ | 40⅜ | -⅝ |
| 31½ | 26¼ | GenPUt | 1.88 | 5.9 | 12 | 1629 | u31¾ | 31⅞ | 31⅝ | +⅛ |
| 153¼ | 121⅝ | GenRe x | 1.96 | 1.3 | 15 | 1086 | 151 | 148 | 150½ | +2¼ |
| 42½ | 28 | GenSig | 0.96 | 3.4 | 12 | 2615 | 29 | d28 | 28⅜ | -½ |
| 52 | 44½ | Genentech | | | 43 | 3707 | 48¼ | 47⅞ | 47⅞ | -½ |
| 41⅝ | 25⅜ | Gen Instr | | | 13 | 17358 | 28⅞ | 27¼ | 28⅛ | -⅝ |
| 4⅞ | 2 | Genesco | | | 3 | 672 | 4⅜ | 4¼ | 4⅜ | |
| 16 | 7⅛ | Geneva Stl | | | 17 | 803 | 7⅞ | 7⅜ | 7½ | -¼ |
| 10⅛ | 4⅝ | Genrad Inc | | | 20 | 301 | 9¾ | 9⅝ | 9⅝ | |
| 40⅞ | 35½ | GenuPt | 1.26 | 3.1 | 18 | 1081 | 40½ | 40⅛ | 40¼ | -¼ |
| 40¾ | 26⅝ | Grgia Gll | 0.32 | 1.0 | 6 | 409 | 33⅝ | 33⅛ | 33⅜ | -¼ |
| 95¾ | 71⅛ | GrgiaP | 2.00 | 2.3 | 10 | 4557 | 87¼ | 84⅜ | 85¼ | -1⅞ |
| 102 | 87¼ | Grgia7.72 | 7.72 | 7.7 | | z80 | 99¾ | 99¾ | 99¾ | |
| 19½ | 12⅝ | Gerber Sci | 0.32 | 1.8 | 21 | 169 | 17⅝ | 17¼ | 17⅝ | -⅛ |
| 12½ | 10¾ | Germany Fd | 0.12 | 1.1 | | 109 | 11½ | 11⅜ | 11⅜ | -⅛ |
| 5⅛ | 2⅝ | GerOil | | | 4 | 635 | 3⅛ | 3 | 3⅛ | +⅛ |
| 14 | 10¾ | Getty Petr | 0.12 | 0.9 | 12 | 31 | 13⅝ | 13⅜ | 13⅝ | |
| 7⅞ | 5⅝ | Giant Grp | | | 1 | 71 | 7⅜ | 7⅜ | 7⅜ | |
| 11⅜ | 6⅝ | Giant Inds | 0.20 | 1.8 | 51 | 790 | 10⅞ | 10¾ | 10⅞ | -⅛ |
| 48¼ | 35½ | Gillte | 0.60 | 1.2 | 28 | 6845 | u48⅞ | 47¾ | 48¾ | +1 |
| 9⅜ | 6⅝ | GlamisGld | 0.06 | 0.9 | 67 | 287 | 6¾ | d6⅝ | 6¾ | |
| 25½ | 18⅞ | GlaxoW x | 1.00 | 4.1 | 18 | 2427 | 24¼ | 24⅛ | 24⅛ | |
| 37¼ | 14⅝ | Gleason Co | 0.50 | 1.5 | 17 | 121 | 34⅛ | 33⅛ | 33⅝ | -½ |
| 7⅜ | 5½ | Global Gov x | 0.48 | 6.7 | | 89 | 7¼ | 7⅛ | 7⅛ | |
| 7½ | 3⅜ | Global Mar | | | 30 | 9763 | 6⅞ | 6⅝ | 6¾ | -¼ |
| 8 | 6 | Global TR | 0.58 | 7.4 | | 1329 | u8 | 7⅞ | 7⅞ | -⅛ |
| 52½ | 34¾ | GlWstFn | 0.34 | 0.7 | 14 | 1594 | 51¾ | 51⅛ | 51⅝ | +¼ |
| 66¼ | 41⅝ | Gdrich | 2.20 | 3.5 | 16 | 1082 | 63⅜ | 62⅜ | 62½ | -⅞ |
| 45 | 33 | Gdyear | 1.00 | 2.5 | 10 | 5480 | 39⅝ | 38⅛ | 39⅜ | -¼ |
| 8⅜ | 6½ | Gottschalk | | | 25 | 11 | 6⅞ | 6⅞ | 6⅞ | |
| 71½ | 38¼ | GraceWR | 1.40 | 2.2 | 22 | 14743 | 65½ | 64⅝ | 64¾ | +⅛ |
| 64⅜ | 55½ | GrngrW | 0.92 | 1.5 | 23 | 425 | 60⅞ | 60 | 60⅝ | +⅝ |
| 16⅛ | 14⅞ | Grantare | | | 15 | 1282 | 16⅝ | 15⅜ | 15½ | -1⅛ |
| 41½ | 13¾ | GrCasinos | | | 17 | 1092 | 39⅛ | 38⅜ | 38⅞ | -½ |
| 28⅞ | 22½ | G Mat | 0.96 | 3.5 | 20 | 282 | 27⅞ | 27⅝ | 27¾ | |
| 28⅞ | 17⅝ | GtAtPT | 0.20 | 0.8 | 6 | 1004 | 26⅞ | 25¾ | 25⅞ | -1⅛ |
| 13⅛ | 10¾ | Great G Eo | 0.35 | 2.7 | | 209 | 12⅞ | 12⅝ | 12¾ | +⅛ |
| 68⅞ | 55¾ | Gt Lakes C | 0.46 | 0.7 | 15 | 738 | 67⅝ | 66¾ | 67⅛ | -¼ |
| 49¼ | 39⅞ | Gt Nth Iro x | 5.20 | 11.1 | 10 | 5 | 46¾ | 46¾ | 46¾ | -¼ |
| 24 | 16 | GtWFin | 0.92 | 3.8 | 15 | 3756 | u24 | 23⅞ | 24 | |
| 28¼ | 23⅞ | Green Mt P | 2.12 | 7.8 | 12 | 83 | 27¼ | 27 | 27¼ | +⅛ |
| 82⅞ | 29⅜ | GreenTree | 0.25 | 0.4 | 20 | 978 | 61⅜ | 60¼ | 61⅜ | +⅜ |
| 12¾ | 10⅛ | GreinerEng | 0.30 | 2.8 | 18 | 8 | 10⅞ | 10⅞ | 10⅞ | |
| 9⅜ | 7⅜ | Griffon | | | 11 | 546 | 8½ | 8⅜ | 8½ | |
| 11⅜ | 8¼ | Growth Spn | 0.45 | 4.2 | | 820 | 10¾ | 10½ | 10⅝ | +⅛ |
| 16⅞ | 4⅞ | GrTrbADR | | | 137 | 12159 | 7¼ | 6⅞ | 6⅞ | -¼ |
| 15¼ | 9⅞ | Guardsman | 0.32 | 2.4 | 17 | 29 | 13½ | 13¼ | 13½ | +¼ |
| 28⅜ | 20¼ | Guilford M | 0.60 | 2.5 | 12 | 209 | 24 | 23⅝ | 23⅝ | -⅜ |

### - H -

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 18⅞ | 13¼ | H&Q Hcare | 0.96 | 5.4 | | 257 | 18⅛ | 17⅝ | 17⅝ | -½ |
| 21½ | 16½ | HK Tel ADR | 0.84 | 4.5 | 18 | 1063 | 18⅜ | 18½ | 18⅝ | +⅜ |
| 14⅝ | 13 | HRE Props x | 1.16 | 8.4 | 13 | 15 | 13⅞ | 13⅞ | 13⅞ | +⅛ |
| 45¼ | 32⅞ | Halbtn | 1.00 | 2.4 | 17 | 3760 | 42¾ | 41⅝ | 41¾ | +⅛ |
| 14½ | 8½ | Hallwood | | | 6 | 22 | 10¼ | 10⅛ | 10¼ | |
| 11¾ | 7¾ | H'cock Fab x | 0.32 | 3.2 | 20 | 23 | 10⅛ | 10 | 10 | |
| 16½ | 13⅞ | H'cock Inc x | 1.26 | 8.1 | 20 | 32 | 15¾ | 15½ | 15½ | |
| 22½ | 18 | H'cockJohn x | 1.68 | 7.8 | 28 | 25 | 21⅝ | 21½ | 21⅝ | +⅛ |
| 9¼ | 7½ | HncPPm | 0.80 | 8.8 | | 141 | 9⅛ | 9 | 9⅛ | +¼ |
| 11⅞ | 8⅛ | Handleman x | 0.44 | 5.0 | 14 | 2645 | 9⅛ | 8¾ | 8⅞ | -⅛ |
| 16¾ | 14⅛ | Handy Harm | 0.24 | 1.6 | 18 | 373 | 15⅛ | 15 | 15 | -⅛ |
| 30 | 23 | Hanna | 0.54 | 2.2 | 13 | 1414 | 25⅝ | 24⅛ | 24¾ | -1 |
| 29 | 24¾ | Hannaford | 0.42 | 1.6 | 15 | 152 | 26⅝ | 26 | 26⅜ | -⅛ |
| 19¾ | 15⅞ | Hanson ADR | 1.00 | 6.2 | 9 | 5454 | 16⅜ | 16 | 16⅛ | -¼ |
| 45¾ | 32⅜ | HarcGn | 0.68 | 1.6 | 19 | 1843 | 41¾ | 41⅜ | 41½ | -¼ |
| 23⅝ | 19⅛ | Harland | 1.02 | 4.7 | 13 | 1170 | 21⅝ | 21⅜ | 21⅝ | -⅛ |
| 30⅛ | 22 | Harley Dav | 0.20 | 0.8 | 18 | 4033 | 26⅜ | 25⅞ | 26⅛ | +⅝ |
| 49¾ | 32¼ | Harman Ind | 0.20 | 0.4 | 17 | 325 | 48¾ | 48⅛ | 48¼ | -½ |
| 39⅜ | 26 | Harnfg x | 0.40 | 1.3 | 17 | 4175 | 32⅞ | 30½ | 30½ | -2⅝ |
| 33⅛ | 25 | HarrahEnt | | | 22 | 5882 | 28⅞ | 27⅞ | 28⅞ | -¾ |
| 61⅞ | 40½ | Harris | 1.36 | 2.5 | 13 | 893 | 54⅞ | 53⅝ | 54⅞ | +⅜ |
| 59⅜ | 38⅝ | Harsco | 1.48 | 2.7 | 13 | 170 | 55½ | 55¼ | 55¼ | -¼ |
| 49⅜ | 39¼ | Hartfd Stm | 2.28 | 4.8 | 17 | 284 | 48⅛ | 47⅝ | 47⅝ | -⅝ |
| 8⅞ | 4¼ | Hartmx | 0.60 | 10.4 | 8 | 182 | 5¾ | 5⅝ | 5¾ | |
| 17 | 14⅞ | Hatteras | 1.38 | 8.5 | | 6 | 16⅜ | 16¼ | 16¼ | |
| 38⅜ | 32⅛ | HawaiianEl | 2.36 | 6.2 | 13 | 517 | 38⅛ | 37¾ | 37⅞ | -¼ |
| 18⅜ | 13¼ | HlthRet | 1.36 | 8.6 | 16 | 397 | 15⅞ | 15⅝ | 15¾ | |
| 34⅞ | 28 | Health Ca | 2.16 | 6.4 | 17 | 269 | 33¾ | 33⅜ | 33⅝ | |
| 7⅝ | 4¾ | Hlth Image | 0.10 | 1.4 | 237 | 213 | 7⅛ | 7 | 7⅛ | |
| 49½ | 30¼ | Hlthsource | | | 32 | 874 | 46¾ | 44½ | 45½ | -1½ |
| 25¾ | 16⅜ | Healthsth | | | 47 | 4727 | 25⅜ | 25 | 25¼ | +⅛ |
| 12⅞ | 8⅝ | HeclaM | 0.05 | 0.4 | 20 | 671 | 12⅛ | 11⅞ | 11⅞ | -⅛ |
| 29 | 19¼ | HeilgMey | 0.28 | 1.3 | 17 | 1475 | 23 | 21⅞ | 22⅛ | -⅝ |
| 47¼ | 36⅜ | Heinz x | 1.58 | 3.5 | 18 | 3443 | 46⅛ | 45⅞ | 46 | +⅛ |
| 34½ | 27¾ | Helene Cur | 0.32 | 1.1 | 15 | 66 | 30¼ | 30 | 30 | |
| 31¼ | 24½ | HelorP | 0.50 | 1.8 | 38 | 144 | 28⅛ | 27¾ | 27⅞ | -¼ |
| 62¼ | 38¼ | Hrcules | 0.64 | 1.5 | 20 | 5723 | 56⅞ | 55 | 56⅛ | -1¼ |
| 65 | 48 | Hrshey | 1.44 | 2.2 | 28 | 1115 | u65⅞ | 64⅞ | 65⅞ | +1 |
| 85⅞ | 49 | HewPac | 0.80 | 1.0 | 19 | 12988 | 83 | 81⅝ | 83 | +⅝ |
| 12¼ | 3 7/16 | Hexcel | | | 3 | 428 | 10⅜ | 9⅝ | 10⅛ | -⅛ |
| 8⅛ | 3⅞ | HiShear | | | 80 | 3 | 7¼ | 7¼ | 7¼ | |
| 10¾ | 6⅞ | Hibernia A | 0.24 | 2.4 | 11 | 983 | 10⅛ | 9⅞ | 9⅞ | -¼ |
| 5⅞ | 5¼ | High Inc | 0.60 | 10.7 | | 290 | 5¾ | 5⅝ | 5⅝ | |
| 6¼ | 5¾ | High Incll | 0.63 | 10.5 | | 216 | 6⅛ | 6 | 6 | -⅛ |
| 8 | 6⅞ | Hi Yld Inc | 0.87 | 11.0 | | 31 | 7⅞ | 7⅞ | 7⅞ | |
| 8⅞ | 7¼ | Hi Yld Pls x | 0.84 | 9.6 | | 17 | 8¾ | 8⅝ | 8¾ | |
| 13⅝ | 10½ | HlbrogSH | 0.56 | 4.1 | 15 | 88 | u13⅝ | 13½ | 13⅝ | |
| 33 | 27 | Hillenbrnd | 0.60 | 2.1 | 27 | 2699 | 29½ | 28¾ | 28¼ | +1¼ |
| 79¾ | 60⅜ | HiltonH | 1.20 | 1.9 | 20 | 3199 | 64⅛ | 63⅝ | 63⅞ | +⅛ |
| 114⅛ | 82⅞ | Hitachi x | 1.01 | 0.9 | 26 | 43 | 108 | 106¾ | 108 | +2 |
| 49⅞ | 38½ | HmeDep | 0.20 | 0.5 | 27 | 14489 | 39¾ | 39¼ | 39⅝ | |
| 10¾ | 6½ | Home Shop | | | 79 | 3172 | 8¾ | 8⅝ | 8¾ | |
| 18⅛ | 14¾ | HmstkM | 0.20 | 1.2 | 60 | 3229 | 17 | 16⅞ | 16⅞ | +⅛ |
| 2⅛ | 1 | Hompix Mtg | 0.04 | 2.3 | 12 | z100 | 1¾ | 1¾ | 1¾ | |
| 35⅞ | 27½ | HondaM ADR x | 0.25 | 0.7 | 31 | 34 | 35⅜ | 34¾ | 34¾ | -¼ |
| 46½ | 30¾ | Hnywll | 1.00 | 2.4 | 18 | 1948 | 43½ | 42¼ | 42⅜ | -½ |
| 29¼ | 20⅛ | HrcMannEd | 0.36 | 1.3 | 10 | 117 | 27⅝ | 27¼ | 27⅜ | +⅛ |
| 28¼ | 16⅝ | HrzCMS Hc | | | 16 | 2813 | 22 | 21⅛ | 21¼ | -¾ |
| 28 | 23¾ | Hormel | 0.58 | 2.2 | 15 | 924 | 26⅞ | 26⅜ | 26⅞ | |
| 15 | 11⅝ | Horsham | 0.07 | 0.5 | 7 | 3840 | 13⅝ | 13⅛ | 13½ | +¼ |
| 13⅞ | 9¼ | HstMar | 0.28 | 2.3 | 102 | 853 | 12⅜ | 12⅛ | 12¼ | -⅛ |
| 54¾ | 39¾ | Houghton M | 0.96 | 2.1 | 37 | 1210 | 45⅞ | 45⅝ | 45¾ | |
| 1⅛ | ½ | House Fab | 0.48 | 85.3 | 0 | 190 | ⅝ | 9/16 | 9/16 | |
| 62¼ | 35⅞ | Hshd I x | 1.36 | 2.2 | 15 | 2450 | 62 | 60⅝ | 61 | -1 |
| 16⅜ | 10⅜ | Howell | 0.16 | 1.1 | 37 | 6 | 14⅜ | 14¼ | 14¼ | |
| 20 | 12¾ | Hudson Fds x | 0.08 | 0.6 | 11 | 430 | 14¼ | 13⅞ | 14¼ | +¼ |
| 15⅞ | 11⅛ | Huffy Corp | 0.34 | 3.0 | 16 | 177 | 11⅜ | 11¼ | 11⅜ | |
| 27¼ | 17¾ | Hughes Sup | 0.28 | 1.1 | 12 | 58 | 24½ | 24⅜ | 24⅜ | |
| 27⅛ | 17 | Humana | 1.465 | 73.7 | 18 | 3853 | 20 | 19¾ | 19⅞ | |
| 15¾ | 12⅝ | Hunt Mfg C x | 0.38 | 2.6 | 15 | 220 | 15⅛ | 14¾ | 14¾ | -½ |
| 6½ | 2⅝ | Huntigdon | 0.22 | 3.6 | 100 | 132 | 6⅛ | 6 | 6 | |
| 9⅜ | 8⅛ | Hyperion | 0.84 | 9.6 | | 266 | 8⅞ | 8⅝ | 8¾ | -⅛ |

### - I -

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 53½ | 29⅛ | IBP Inc | 0.20 | 0.4 | 9 | 1822 | 53¾ | 52¼ | 53⅛ | +⅛ |
| 26⅜ | 19¾ | IP Tim | 2.86 | 12.4 | 4 | 61 | 23⅜ | 23⅛ | 23¼ | |
| 10⅜ | 9 | IRT Propty | 0.90 | 9.1 | 17 | 178 | 9⅞ | 9⅝ | 9⅞ | +¼ |
| 5 | 3¼ | ICF Ka | | | 22 | 43 | 4⅛ | 4 | 4⅛ | +⅛ |
| 27⅞ | 23⅜ | Idaho Pwr | 1.86 | 6.6 | 15 | 280 | u28¼ | 27¾ | 28¼ | +½ |
| 21⅜ | 8⅜ | Ideon | 0.20 | 1.9 | 16 | 129 | 10⅜ | 10⅛ | 10⅜ | -¼ |
| 44¼ | 27¾ | Idex Corp | 0.56 | 1.5 | 17 | 729 | 37¼ | 36⅝ | 37⅛ | -⅜ |
| 28½ | 23¾ | IlPw4.42 | 2.21 | 7.9 | | z100 | 28 | 28 | 28 | |
| 48 | 40 | IlPw7.56 | 3.78 | 7.9 | | 6 | 47¾ | 47¼ | 47¾ | +¾ |
| 27⅜ | 21½ | Il Pr4.08 | 2.04 | 7.8 | | z100 | 26 | 26 | 26 | |
| 27 | 22 | Il Pr4.2 | 2.10 | 7.9 | | 6 | 26½ | 26 | 26½ | -½ |
| 51½ | 44⅛ | Il Pr8.24 | 4.12 | 8.1 | | z50 | 51 | 51 | 51 | |
| 42 | 30¾ | IllinoisCn | 1.00 | 2.6 | 13 | 1266 | 39⅛ | 38⅝ | 38⅞ | |
| 43 | 33 | IlPwARPA | 3.00 | 7.3 | | 8 | 41 | 41 | 41 | |
| 49½ | 41¼ | IlPwARPB | 3.50 | 7.2 | | 4 | 48¾ | 48⅝ | 48⅝ | |
| 27⅞ | 21¾ | Illinv | 1.00 | 3.6 | 12 | 1313 | u27½ | 27 | 27½ | +½ |
| 52⅛ | 43½ | ICI | 1.94 | 3.7 | 32 | 635 | 51⅞ | 51⅝ | 51⅞ | +¾ |
| 66⅝ | 41¼ | IMC Global | 0.40 | 0.7 | 14 | 1718 | 62½ | 60⅝ | 60⅞ | -1⅝ |
| 11⅞ | 6⅛ | Imo Del | 0.50 | 5.8 | 14 | 100 | 8⅞ | 8⅝ | 8⅝ | -⅜ |
| 17¼ | 15¼ | INA Invest | 1.32 | 7.9 | | 17 | 16¾ | 16½ | 16¾ | +¼ |
| 37¾ | 23½ | Inco | 0.40 | 1.2 | 18 | 5065 | 33⅝ | 32¾ | 33 | -¾ |
| 81 | 76 | IndMP7.08 | 7.08 | 8.1 | | 2 | 87½ | 86 | 87½ | |
| 20½ | 16¾ | IndiaGrth | 1.56 | 9.0 | | 382 | 17¼ | 17⅛ | 17¼ | +⅛ |
| 22 | 17⅝ | Ind Energy | 1.10 | 5.0 | 15 | 127 | u22 | 21¾ | 22 | +⅜ |
| 12⅜ | 9⅜ | Indon Fund | 0.05 | 0.5 | | 24 | 10⅞ | 10⅞ | 10⅞ | -⅛ |
| 18⅛ | 10⅞ | Indresco | | | 11 | 527 | u18⅛ | 17⅞ | 17⅞ | -⅛ |
| 42⅜ | 28⅜ | IngRnd | 0.74 | 2.0 | 16 | 1525 | 37⅛ | 36 | 36½ | -⅝ |
| 36⅜ | 22½ | IntdSI | 0.20 | 0.9 | 7 | 1600 | 22⅞ | d22⅛ | 22⅜ | -⅜ |
| 41¾ | 22 | InputOutp | | | 26 | 580 | 37¾ | 37 | 37¼ | +¼ |
| 25⅛ | 19¼ | IntShiph | 0.20 | 0.8 | 11 | 11 | u25⅛ | 25 | 25¼ | +⅛ |
| 59½ | 36⅞ | Integra Fn | 2.00 | 3.4 | 12 | 1163 | 59⅜ | 58⅝ | 59⅛ | +½ |
| 7¼ | 3 | IntelliCh | | | 3 | 62 | 4½ | 4¼ | 4⅜ | -⅛ |
| 36¼ | 22¼ | Inter Reg | 0.64 | 1.8 | 12 | 888 | 35¾ | 35 | 35⅜ | -⅝ |
| 18¼ | 15⅝ | Intercap | 1.44 | 8.9 | | 62 | 16⅜ | 16¼ | 16¼ | |
| 3¼ | 1¾ | Intlake | | | 1 | 236 | 2⅜ | 2¼ | 2⅜ | |
| 114⅝ | 70¼ | IBM | 1.00 | 1.1 | 11 | 29753 | 95¼ | 93⅜ | 94⅞ | +1½ |
| 20⅝ | 12⅝ | IntFnsB | | | 41 | 236 | 19½ | 19⅜ | 19⅜ | |
| 53⅝ | 45⅛ | Int FF x | 1.24 | 2.5 | 21 | 955 | 48¾ | 47¾ | 48¾ | +1 |
| 23 | 17⅝ | IntMult x | 0.80 | 3.7 | 11 | 209 | 21⅝ | 21⅜ | 21½ | -⅛ |
| 45¾ | 35¼ | IntPap | 1.00 | 2.5 | 12 | 14778 | 41 | 39½ | 40⅛ | -1 |
| 40⅜ | 31¾ | Intpub | 0.62 | 1.5 | 24 | 501 | u40⅜ | 39⅞ | 40¼ | +¾ |
| 11⅛ | 7⅝ | IntersLinn | 0.12 | 1.2 | 11 | 120 | 10 | 9⅞ | 9⅞ | |
| 27⅜ | 23 | IntstPw | 2.08 | 7.6 | 13 | 81 | u27⅜ | 27¼ | 27⅜ | +⅛ |
| 10⅛ | 6⅝ | IntTAN | | | 11 | 42 | 9⅜ | 9⅛ | 9⅜ | +⅛ |
| 17 | 12⅝ | IntlGameT | 0.12 | 0.9 | 15 | 2911 | 13⅜ | 13 | 13¼ | |
| 44½ | 22⅛ | Int Rectf | | | 24 | 1540 | 41 | 40⅜ | 40⅞ | |
| 3⅞ | 2¼ | Int Techn | | | 108 | 408 | 3⅜ | 3⅛ | 3¼ | -⅛ |
| 42 | 26¼ | Ionics | | | 33 | 403 | 40¾ | 40⅛ | 40¾ | +¾ |
| 36¼ | 30 | Ipalco Ent x | 2.16 | 6.0 | 15 | 424 | 36⅛ | 35¾ | 36⅛ | +⅜ |
| 12⅛ | 8⅝ | Irish Inve | 0.10 | 0.9 | | 75 | 11½ | 11¼ | 11¼ | -¼ |
| 8 | 7¼ | Italy Fund | 0.17 | 2.2 | | 59 | 7⅞ | 7¾ | 7¾ | -⅛ |
| 128½ | 86⅝ | ITT | 1.98 | 1.6 | 20 | 3509 | 122¼ | 121¼ | 121⅞ | +⅛ |

### - J -

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 52⅛ | 37¾ | J River PF | 3.38 | 6.8 | | 14 | 49½ | 49¼ | 49½ | -¼ |
| 53 | 39⅜ | J River L | 3.50 | 7.0 | | 117 | 50¼ | 49¾ | 50 | -⅛ |
| 11⅞ | 7¼ | Jackpot En | 0.32 | 2.8 | 15 | 1251 | 11⅝ | 11¼ | 11⅜ | +⅜ |
| 25¾ | 17¼ | Jacobs Eng | | | 29 | 1075 | 24 | 23 | 23¼ | -⅞ |
| 10½ | 7¼ | Jakarta Gr | 0.02 | 0.2 | | 82 | 8⅞ | 8⅝ | 8⅞ | +⅛ |
| 10⅜ | 7⅞ | Jap Otc | 0.19 | 2.1 | | 68 | 8⅞ | 8¾ | 8⅞ | +⅛ |
| 65¾ | 50½ | JeffP | 1.92 | 3.0 | 13 | 131 | 64¾ | 64¼ | 64¾ | +½ |
| 103¼ | 89 | JrsyP7.88 | 7.88 | 7.8 | | z20 | 100½ | 100½ | 100½ | |
| 66 | 45¼ | JhnsCn | 1.56 | 2.5 | 14 | 413 | 62½ | 61½ | 62⅛ | -⅜ |
| 74⅞ | 53⅝ | JhnsJ | 1.32 | 1.8 | 21 | 9525 | u74⅞ | 73⅝ | 74¾ | +1¼ |
| 12 | 7⅞ | Johnston | 0.40 | 4.4 | 12 | 7 | 9 | 9 | 9 | |
| 24⅜ | 17¾ | Jostens In | 0.88 | 3.7 | 19 | 760 | 24⅛ | 23⅝ | 23⅞ | -¼ |

### - K -

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 39¼ | 24⅝ | KLM R Dtch | 0.81 | 2.3 | 12 | 534 | 35¼ | 35 | 35⅛ | +¾ |
| 28¾ | 20¼ | KN Energy | 1.00 | 3.6 | 37 | 180 | 28⅛ | 27½ | 27⅞ | +½ |
| 66 | 51¾ | KanCt 4.5 | 4.50 | 7.1 | | z30 | 64 | 63½ | 63½ | |
| 24¾ | 20⅝ | KanebP Pf | 2.20 | 9.3 | 10 | 30 | 23¾ | 23⅝ | 23¾ | +⅛ |
| 9½ | 7½ | Kaneb Sv | 0.86 | 9.3 | | 20 | 9¼ | 9¼ | 9¼ | |
| 2¾ | 1½ | Kaneb Serv | | | 39 | 454 | 2½ | 2⅜ | 2⅜ | |
| 24½ | 21½ | KanCyP | 1.56 | 6.4 | 13 | 308 | 24⅛ | 23⅞ | 24¼ | +¼ |
| 20 | 14½ | KanCyS 4% | 1.00 | 5.8 | | 1 | 18 | 17¼ | 18 | +½ |
| 47⅜ | 31 | KansasS In | 0.30 | 0.7 | 25 | 1030 | 46¼ | 45⅝ | 46 | +⅛ |
| 6¾ | 4⅝ | Kaslar | 0.10 | 1.7 | 40 | 79 | 6⅛ | 6 | 6 | |
| 10⅛ | 7 | Katyind | 0.25 | 2.6 | 8 | 61 | 9⅞ | 9⅝ | 9⅝ | |
| 16 | 11⅛ | Kaufman&Br | 0.30 | 2.4 | 18 | 398 | 12⅝ | 12½ | 12⅝ | |
| 31⅝ | 22¾ | Kaydon | 0.44 | 1.5 | 13 | 72 | 29 | 28⅝ | 28⅝ | -⅛ |
| 9⅜ | 8 | Kl Ben Aus x | 0.78 | 8.7 | | 56 | 9 | 8⅞ | 9 | |
| 73⅞ | 52½ | Kellogg | 1.56 | 2.1 | 23 | 1853 | u74⅝ | 73 | 74⅝ | +1⅞ |
| 22⅞ | 16⅝ | Kellwood | 0.60 | 2.8 | 71 | 143 | 21 | 20⅝ | 20⅝ | -⅜ |
| 10½ | 9⅛ | Kemp Mulim | 0.98 | 9.5 | | 279 | 10⅜ | 10¼ | 10⅜ | |
| 48¾ | 36 | Kemper | 0.92 | 1.9 | 61 | 1158 | 48⅜ | 48¼ | 48¼ | |
| 9½ | 8⅛ | Kemper Hi | 0.80 | 8.7 | | 196 | 9⅜ | 9¼ | 9¼ | -⅛ |
| 7½ | 7 | Kemper Gv | 0.57 | 8.0 | | 44 | 7¼ | 7⅛ | 7⅛ | -⅛ |
| 12½ | 10¼ | Kemper Mun | 0.87 | 7.0 | | 132 | 12⅜ | 12¼ | 12⅜ | +⅛ |
| 12¼ | 11⅛ | Kemper Str | 0.82 | 6.7 | | 135 | 12⅛ | 12 | 12⅛ | +⅛ |
| 41⅛ | 23 | Kennmt | 0.60 | 1.7 | 13 | 401 | 35½ | 35⅛ | 35¼ | -¼ |
| 20⅝ | 19 | Kerr G 1.7 | 1.70 | 8.5 | | 8 | 20 | 20 | 20 | |
| 59⅞ | 44⅛ | KerrMc | 1.64 | 2.9 | 26 | 1027 | 56½ | 55¾ | 55⅞ | -½ |
| 35⅛ | 24¾ | KeyCp | 1.44 | 4.2 | 10 | 2783 | 34⅜ | 34 | 34⅜ | +¼ |
| 15⅛ | 13¼ | Keystn Con | | | 18 | 7 | 14½ | 14½ | 14½ | |
| 22¾ | 16¾ | Keystn Int | 0.74 | 3.5 | 24 | 224 | 21⅜ | 21⅛ | 21¼ | |
| 68⅝ | 47¼ | KimbCl | 1.80 | 2.7 | 20 | 2204 | 67⅜ | 66¾ | 66⅞ | -⅜ |
| 6¼ | 1½ | Kinamins En | 0.03 | 1.0 | 42 | 222 | 3¼ | 3 | 3 | -¼ |
| 44½ | 32½ | KngWld | | | 14 | 758 | 37¼ | 36½ | 36½ | |
| 16¼ | 11⅞ | Kmart | 0.48 | 3.4 | 41 | 14697 | 14⅛ | 13⅞ | 14 | -⅜ |
| 59⅛ | 50½ | KnRdd | 1.48 | 2.5 | 13 | 653 | 58½ | 58 | 58⅛ | -¼ |
| 12 | 5⅝ | Kollmorgen | 0.08 | 0.8 | 97 | 158 | 10½ | 10¼ | 10⅜ | -⅛ |
| 23 | 18 | Korea Fd | 0.01 | 0.1 | 643 | 815 | 22 | 21⅝ | 21¾ | -¼ |
| 34¾ | 23⅜ | Kroger | | | 13 | 1287 | 33⅝ | 33 | 33¼ | -⅜ |
| 29⅜ | 26 | KU Energy | 1.68 | 5.7 | 16 | 193 | u29⅜ | 28⅞ | 29⅜ | +½ |
| 13½ | 10⅜ | Kuhlman Co | 0.60 | 5.0 | 133 | 184 | 12⅛ | 11⅞ | 12 | |
| 184 | 123 | Kyocera CP x | 0.91 | 0.6 | 31 | 11 | 166½ | 165½ | 165½ | +1⅜ |
| 24¼ | 20 | Kysor Indu | 0.60 | 2.9 | 8 | 94 | 21⅝ | 21 | 21 | -⅜ |

### - L -

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 5⅛ | 2⅛ | LA Gear | | | 1 | 623 | 2⅝ | 2½ | 2½ | -⅛ |
| 40½ | 36⅝ | LG & E En x | 2.22 | 5.4 | 13 | 889 | u41 | 40 | 40⅞ | +⅞ |
| 62½ | 18¼ | LSI Lg | | | 40 | 16019 | 57⅞ | 55¼ | 56⅜ | -1⅞ |
| 30¾ | 19⅝ | La Quinta | 0.10 | 0.4 | 27 | 908 | 27¾ | 27⅛ | 27⅛ | -⅜ |
| 32¼ | 25⅞ | LaZBoy | 0.76 | 2.5 | 15 | 68 | 30⅝ | 30⅜ | 30⅝ | +⅛ |
| 20¾ | 18⅜ | Laclede Gs | 1.24 | 6.2 | 18 | 56 | 20⅜ | 19⅞ | 20 | -¼ |
| 22¼ | 16⅝ | Lafarge | 0.40 | 2.1 | 11 | 308 | 18⅞ | 18½ | 18¾ | -¼ |
| 7⅜ | 5¼ | Lamson & S | | | 12 | 548 | 6¼ | 6⅛ | 6¼ | |
| 19½ | 13 | Lands End | 0.20 | 1.3 | 17 | 234 | 15½ | 15¼ | 15¼ | -¼ |
| 14⅜ | 10⅞ | Lawter Int | 0.40 | 3.6 | 15 | 205 | 11⅛ | 11 | 11 | -⅛ |
| 24⅞ | 17¾ | Learonal | 0.62 | 2.7 | 15 | 145 | 23 | 22¾ | 22¾ | |
| 43⅜ | 33½ | Lee Enterp | 0.88 | 2.0 | 17 | 34 | u43⅜ | 43 | 43⅛ | -⅛ |
| 30⅝ | 20⅝ | Legg Mason | 0.48 | 1.6 | 19 | 195 | 29¾ | 29½ | 29½ | |
| 26½ | 17 | LeggPl | 0.40 | 1.6 | 15 | 1281 | 24⅜ | 23⅝ | 24¼ | +¼ |
| 24⅝ | 14½ | Lehman | 0.20 | 0.9 | 14 | 1212 | 23 | 22½ | 22⅝ | -⅜ |
| 22¼ | 15¼ | Lennar Crp | 0.10 | 0.5 | 11 | 1055 | u22¼ | 21¾ | 22⅛ | +⅛ |
| 2¼ | 1½ | Liberte In | | | 10 | 3 | 2⅛ | 2⅛ | 2⅛ | |
| 10⅝ | 8⅜ | Liberty AS | 1.08 | 10.3 | | 228 | 10½ | 10⅜ | 10½ | |
| 34¼ | 24⅜ | Liberty Cp | 0.68 | 2.1 | 26 | 82 | 32½ | 32¼ | 32⅜ | -¼ |
| 94⅜ | 62½ | Lilly | 2.58 | 2.8 | 20 | 5348 | 90¾ | 88⅝ | 90⅝ | +1½ |
| 23¼ | 16⅝ | Ltmtd | 0.40 | 2.1 | 15 | 13657 | 19⅛ | 18⅞ | 19⅛ | +⅛ |
| 47⅜ | 34⅝ | LincnN | 1.72 | 3.7 | 12 | 745 | 47⅛ | 46⅛ | 47 | +⅜ |
| 18¼ | 15 | Lincn NlFd | 0.96 | 5.4 | | 29 | 17⅞ | 17¾ | 17¾ | |
| 64½ | 48 | LongIL Pl8 | 5.00 | 7.8 | | 2 | u64½ | 64½ | 64½ | |
| 44¾ | 32½ | Litton | | | 14 | 1097 | 42¾ | 41½ | 41½ | -1 |
| 26 | 14⅜ | LizClb | 0.45 | 1.8 | 22 | 2678 | 25⅞ | 25⅛ | 25½ | -⅜ |
| 4⅜ | 3 | LL&E Rty x | 0.35 | 9.7 | 9 | 28 | 3⅝ | 3½ | 3⅝ | +⅛ |
| 68⅛ | 50 | LockhM | 1.40 | 2.1 | 24 | 3658 | 66⅜ | 65⅜ | 65½ | -⅝ |
| 50⅞ | 43⅜ | Loctite Co | 1.00 | 2.1 | 18 | 458 | 48⅝ | 47½ | 47⅝ | -⅞ |
| 148¼ | 86⅝ | Loews | 1.00 | 0.7 | 10 | 899 | 147⅞ | 145¾ | 147⅝ | +1 |
| 32¼ | 16 | Logicon | 0.20 | 0.7 | 18 | 100 | 27½ | 26⅞ | 27⅛ | -⅜ |
| 4½ | ½ | LomasFnCp | | | 0 | 2553 | 9/16 | d½ | 9/16 | +1/16 |
| 17¾ | 13¼ | LglsLt | 1.78 | 10.0 | 7 | 8475 | u17¾ | 17⅜ | 17¾ | +¼ |
| 42¼ | 30½ | LngsDr | 1.12 | 2.8 | 16 | 194 | 40⅞ | 40¼ | 40⅝ | -¼ |
| 19⅝ | 15⅛ | Longview F x | 0.56 | 3.8 | 17 | 1278 | 15⅛ | d14⅝ | 14⅞ | -¼ |
| 29¼ | 18¼ | Loral | 0.32 | 1.1 | 8 | 3612 | u29½ | 28 | 28⅜ | +⅛ |
| 29¾ | 26½ | LouLnd12.6 | 3.16 | 10.8 | | 4 | 29¼ | 29⅛ | 29¼ | |
| 41⅛ | 31¼ | LouisL | 0.24 | 0.7 | 5 | 1301 | 37 | 36 | 36¼ | -½ |
| 30½ | 20⅞ | LouisP | 0.56 | 2.4 | 9 | 3817 | 23½ | 23⅛ | 23¼ | -¼ |
| 38⅞ | 26 | Lowes | 0.20 | 0.7 | 19 | 12757 | 29½ | 28½ | 29½ | |
| 17⅞ | 12⅝ | LTV | | | 7 | 768 | 14 | 13¾ | 13⅞ | -⅛ |
| 4⅛ | 2⅝ | LTVWts | | | | 3 | 3 | 3 | 3 | |
| 37⅜ | 30 | Lubrzl | 0.96 | 2.9 | 10 | 773 | 32⅞ | 32½ | 32⅞ | +⅛ |
| 23¼ | 18⅝ | Lubys Cafe | 0.72 | 3.4 | 13 | 113 | 21¼ | 20⅞ | 21 | -⅜ |
| 35¼ | 25¾ | Lukens Inc | 1.00 | 3.6 | 11 | 612 | 29 | 28 | 28⅛ | -¾ |
| 49¾ | 31⅛ | Luxottica | 0.32 | 0.7 | 37 | 81 | 48⅝ | 48⅜ | 48⅝ | |
| 26 | 14¾ | Lydall Inc | | | 23 | 56 | 25 | 24½ | 24¾ | +⅛ |
| 29⅛ | 21⅝ | Lyondell P | 0.90 | 3.6 | 4 | 2404 | 26⅛ | 24⅞ | 25 | -1⅛ |

### - M -

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 72⅜ | 55⅜ | MBIA Inc | 1.38 | 1.9 | 11 | 308 | 71 | 70¾ | 71 | +⅛ |
| 20 | 16½ | MCN | 0.89 | 4.4 | 15 | 915 | u20⅜ | 19¾ | 20⅜ | +½ |
| 8⅛ | 4⅞ | MDC Hldgs | 0.12 | 1.6 | 8 | 31 | 7½ | 7⅜ | 7⅜ | -⅛ |
| 32⅞ | 25¾ | MDU Res | 1.64 | 5.0 | 15 | 102 | u33 | 32½ | 33 | +¾ |
| 9½ | 8⅜ | MFS Charts | 0.80 | 8.7 | | 545 | 9¼ | 9⅛ | 9¼ | +⅛ |
| 6¾ | 6 | MFS Gov Mr | 0.49 | 7.7 | 9 | 341 | 6½ | 6⅜ | 6⅜ | |
| 15⅝ | 13⅝ | MGI Prop | 0.92 | 6.0 | 14 | 67 | 15⅜ | 15⅛ | 15¼ | -⅛ |
| 32⅜ | 22¾ | MGM Grand | | | 27 | 177 | 25⅜ | 25⅛ | 25¼ | -⅛ |
| 20¼ | 13 | MacFrB | | | 10 | 509 | 15⅞ | 15½ | 15½ | -¼ |
| 20⅞ | 13⅞ | MagmaC | | | 5 | 874 | 18½ | 18¼ | 18¼ | -¼ |
| 18½ | 12 | Magnetek | | | 13 | 385 | 12⅛ | d11⅞ | 11⅞ | -¼ |
| 21⅝ | 15¼ | Malaysia F | 0.02 | 0.1 | | 195 | 18⅛ | 17⅝ | 17⅝ | -⅜ |
| 41⅞ | 29⅛ | Mlnckr | 0.56 | 1.4 | 16 | 1434 | 39⅝ | 39 | 39⅝ | +⅜ |
| 30 | 21 | Mnlwc | 1.00 | 3.4 | 44 | 49 | 29⅝ | 29½ | 29½ | -⅛ |
| 35⅝ | 27½ | ManorC | 0.09 | 0.3 | 20 | 9678 | 33⅜ | 32 | 32½ | -⅞ |
| 34¼ | 24¼ | Manpower | 0.12 | 0.4 | 20 | 2533 | 29¾ | 28⅞ | 29⅛ | -½ |
| 2⅞ | 2⅜ | Manua Loa x | 0.20 | 8.0 | 35 | 41 | 2½ | d2⅜ | 2½ | +⅛ |
| 15¼ | 9¼ | Mnville | 1.80 | 13.6 | 21 | 570 | 13⅜ | 13¼ | 13¼ | |
| 26⅛ | 23 | Mnville Pf | 2.70 | 10.6 | | 37 | 25⅝ | 25½ | 25⅝ | +⅛ |
| 59¼ | 51¼ | Mapco | 1.00 | 1.9 | 13 | 1011 | 51⅞ | 51⅜ | 51⅝ | +⅛ |
| 6½ | 5¼ | Mrtrns | 0.08 | 1.4 | 10 | 215 | 5⅞ | 5⅞ | 5⅞ | |
| 23¾ | 18¾ | Mark IV | 0.12 | 0.6 | 14 | 1301 | 21⅜ | 21 | 21¼ | -⅜ |
| 39⅜ | 27¾ | Marrt x | 0.28 | 0.7 | 21 | 2305 | 37⅝ | 37⅛ | 37⅜ | -¼ |
| 89⅜ | 76⅛ | MshMcL | 3.20 | 3.7 | 16 | 1319 | 87½ | 86¼ | 87 | -⅜ |
| 38¾ | 24⅜ | Marshall | | | 14 | 404 | 37⅜ | 37 | 37 | -¼ |
| 29½ | 22½ | MascoC | 0.76 | 2.7 | 22 | 2278 | 28¼ | 27⅞ | 28⅛ | -⅛ |
| 13¾ | 10⅝ | MascoTech | 0.16 | 1.4 | 2 | 167 | 11⅜ | 11¼ | 11¼ | -⅛ |
| 9 | 7 | Massmut Pt | 0.72 | 8.2 | | 116 | 8¾ | 8⅝ | 8¾ | |
| 33⅞ | 29⅜ | Mssmut | 2.80 | 8.3 | 9 | 43 | u34 | 33¾ | 33⅞ | +⅛ |
| 22⅜ | 14 | MatSci | | | 15 | 119 | 17⅞ | 17⅝ | 17¾ | +⅛ |
| 172½ | 131½ | Matsushita x | 1.11 | 0.7 | 34 | 9 | 154¼ | 153 | 154¼ | +1¼ |
| 30⅝ | 19¾ | Mattel | 0.24 | 0.8 | 25 | 1496 | 30 | 29¾ | 29⅞ | |
| 17 | 12¼ | Maxxim | | | 57 | 61 | 15¾ | 15½ | 15⅝ | |
| 45⅜ | 32⅞ | MayDSt | 1.14 | 2.6 | 13 | 3885 | 43⅝ | 43⅛ | 43⅝ | +⅜ |
| 18⅛ | 14½ | Maytag | 0.50 | 2.8 | 110 | 3859 | 17⅝ | 17⅜ | 17⅝ | +⅛ |
| 41⅞ | 22⅜ | MBNA Corp | 0.84 | 2.1 | 21 | 2884 | 41 | 40½ | 40⅝ | -½ |
| 24⅛ | 21⅛ | McClatchy | 0.38 | 1.7 | 13 | 43 | 22 | 21⅞ | 21⅞ | |
| 32⅛ | 27¾ | McDerm2.2 | 2.20 | 7.4 | | 79 | 29⅝ | 28⅞ | 29⅝ | +½ |
| 31⅛ | 27¾ | McDerm2.6 | 2.60 | 8.5 | | 13 | 30⅞ | 30½ | 30½ | -⅜ |
| 17¾ | 11 | McDon Inv | 0.34 | 2.0 | 9 | 548 | 16⅞ | 16¾ | 16¾ | -⅛ |
| 41½ | 28⅝ | McDnld | 0.27 | 0.7 | 21 | 31623 | 38⅝ | 37¾ | 38⅝ | +⅝ |
| 86⅛ | 46½ | McDnDg | 0.80 | 1.0 | 14 | 1321 | 81¼ | 79 | 80⅝ | -¾ |
| 84¾ | 63⅝ | McGrwH | 2.40 | 3.0 | 19 | 775 | 81¾ | 80¾ | 81 | -⅛ |
| 47⅜ | 31⅞ | McKesn | 1.00 | 2.2 | 10 | 626 | 46⅛ | 44⅞ | 46⅛ | +1⅛ |
| 64⅛ | 48⅝ | MeadCp | 1.12 | 2.0 | 16 | 1986 | 58 | 56¼ | 56⅞ | -1⅝ |
| 35⅜ | 22⅛ | Measurex | 0.44 | 1.3 | 35 | 558 | 34⅛ | 33¾ | 34 | |
| 35½ | 29 | MedtrustI | 2.71 | 7.8 | 14 | 446 | 34¾ | 34⅝ | 34⅝ | |
| 54½ | 28¼ | Mdtrnc | 0.26 | 0.5 | 38 | 5641 | 53¼ | 51¼ | 52⅝ | -¾ |
| 28½ | 21⅜ | Medusa Crp | 0.50 | 1.8 | 13 | 175 | 27⅞ | 27⅝ | 27⅝ | -¼ |
| 47¾ | 30⅝ | MellnBk | 2.00 | 4.4 | 17 | 6335 | 46 | 45⅛ | 45¾ | +¾ |
| 38⅞ | 30⅝ | Melvlle | 1.52 | 4.4 | 14 | 3918 | 35¼ | 34⅝ | 34¾ | -¼ |
| 9¼ | 8⅛ | Mrntn | 0.84 | 9.6 | | 69 | 8⅞ | 8¾ | 8¾ | -⅛ |
| 49 | 39⅛ | MercSt | 1.08 | 2.4 | 16 | 1024 | 44⅞ | 44 | 44⅝ | +⅜ |
| 57⅞ | 36⅜ | Merck | 1.36 | 2.3 | 22 | 21750 | u58 | 57 | 58 | +1 |
| 24⅞ | 12⅜ | Mercury Fn | 0.30 | 1.3 | 27 | 3390 | 23½ | 23 | 23 | -⅜ |
| 42½ | 22¾ | Mrdth | 0.40 | 1.0 | 27 | 120 | 40¼ | 39½ | 39½ | -⅝ |
| 83¾ | 34⅝ | MerLyn | 1.04 | 1.7 | 14 | 5934 | 62⅛ | 61⅜ | 62 | +⅜ |
| 2¼ | ⅝ | MerryGoRd | 0.05 | 8.5 | 0 | 914 | 11/16 | d9/16 | ⅝ | |
| 6⅛ | 3⅝ | Mesa | | | 4 | 2180 | 4⅝ | 4⅜ | 4½ | -⅛ |
| 4⅛ | 2⅞ | Mesabi Tst | 0.26 | 6.9 | 15 | 380 | 3⅞ | 3¾ | 3¾ | -¼ |
| 14⅝ | 9½ | Mestek Inc | | | 11 | 17 | 13⅜ | 13¼ | 13⅜ | -⅛ |
| 52 | 43 | MetrE3.90 | 3.90 | 7.6 | | z100 | 51¼ | 51¼ | 51¼ | |
| 23¼ | 10⅛ | Mexico Fd | 0.62 | 4.0 | 4 | 1304 | 15⅞ | 15¼ | 15⅜ | -⅝ |
| 10¼ | 6⅝ | MHI | | | 33 | 63 | 10⅛ | 10⅛ | 10⅛ | |
| 4⅛ | 2¾ | Micklberr | 0.06 | 1.5 | 68 | 30 | d4⅛ | 4⅛ | 4⅛ | |
| 94½ | 21¼ | MicmTech | 0.20 | 0.3 | 19 | 47897 | 79⅛ | 75⅛ | 75¼ | -1⅜ |
| 7⅛ | 3¾ | MidAmWaste | 0.02 | 0.4 | 32 | 467 | 5 | 4⅞ | 4⅞ | -⅛ |
| 8⅞ | 6½ | MidAmR | 0.88 | 11.0 | 29 | 7 | 8 | 7⅞ | 8 | +⅛ |
| 15⅝ | 13⅝ | MidamEngy | 1.20 | 7.7 | 12 | 479 | 15½ | 15⅜ | 15½ | |
| 39⅛ | 23 | Millpr x | 0.32 | 0.8 | 27 | 1327 | u39⅜ | 37⅞ | 39⅜ | +1¼ |
| 62⅛ | 50¾ | MMM | 1.88 | 3.3 | 17 | 8903 | 57½ | 56⅞ | 57⅛ | +¼ |
| 35⅛ | 18¾ | Mirage Res | | | 19 | 3424 | 31¾ | 31 | 31⅜ | -1¼ |
| 19⅜ | 14⅞ | MichllEnA | 0.48 | 2.7 | 46 | 49 | 17¾ | 17⅝ | 17⅝ | -¼ |
| 19 | 15 | MichllEnB | 0.53 | 3.0 | | 120 | 17¾ | 17½ | 17½ | |
| 6⅛ | 3½ | Mitel Corp | | | 25 | 2303 | 5⅝ | 5½ | 5⅝ | +⅛ |
| 25¼ | 19¾ | Mitsub Bk x | 0.07 | 0.4 | 143 | 41 | 20⅛ | 20 | 20⅛ | +⅛ |
| 105⅝ | 82¼ | Mobil | 3.70 | 3.7 | 22 | 4548 | 99⅞ | 99 | 99⅞ | +⅞ |
| 11¾ | 5¼ | Molecular | | | 10 | 304 | 9⅝ | 9 | 9¼ | -¼ |
| 15⅛ | 9⅛ | MonMtsh | 0.20 | 1.4 | 93 | 5 | 14 | 14 | 14 | |
| 104⅛ | 68¼ | Mnsnto | 2.76 | 2.8 | 16 | 3014 | 99¼ | 98⅛ | 99⅛ | -⅞ |
| 8⅜ | 6 | Mont Edisn | 0.79 | 11.9 | 1 | 51 | 6¾ | 6⅝ | 6⅝ | -⅛ |
| 24⅛ | 21⅛ | Montana Po | 1.60 | 6.8 | 12 | 1555 | 23⅝ | 23⅜ | 23⅜ | +⅛ |
| 18½ | 15¾ | Montgom St | 1.40 | 7.8 | 9 | 8 | 18 | 18 | 18 | |
| 23⅞ | 17½ | Moore Corp | 0.94 | 4.7 | 6 | 1323 | 20 | 19¾ | 19⅞ | |
| 78⅞ | 58⅛ | MrgnJP x | 3.00 | 3.8 | 14 | 3676 | 78¼ | 77⅜ | 78 | +¾ |
| 12¾ | 8⅝ | MorganGren | 1.16 | 9.8 | | 92 | 11⅞ | 11⅝ | 11¾ | -¼ |
| 78 | 61⅞ | M'ganJP Pf x | 5.00 | 6.7 | | 3 | 75 | 74⅜ | 74⅜ | |
| 13⅛ | 7 11/16 | Morgan Kgn | 0.24 | 2.0 | 10 | 54 | 12 | 11¾ | 11¾ | -⅛ |
| 7⅞ | 5¼ | Morgan Pr | | | 114 | 14 | 6⅞ | 6⅞ | 6⅞ | |
| 99¾ | 57⅜ | MrgnSt | 1.28 | 1.4 | 14 | 3459 | 94⅞ | 93½ | 93⅝ | -1¾ |
| 13 | 4¾ | MorrKn | 0.80 | 10.2 | 0 | 1358 | 7⅞ | 7¾ | 7⅞ | +⅛ |
| 34 | 26¼ | Mrtnin | 0.52 | 1.7 | 15 | 4037 | 31¼ | 30⅞ | 31¼ | -⅛ |
| 82⅜ | 51½ | Mtrola | 0.40 | 0.5 | 25 | 22020 | 77 | 74⅛ | 74⅞ | -1⅝ |
| ¾ | ⅛ | Mtg & Real | | | 0 | 17 | 11/32 | 5/16 | 5/16 | |
| 8½ | 7½ | MuniOp | 0.63 | 7.6 | | 83 | 8¼ | 8⅛ | 8¼ | |
| 10 | 8¼ | MnPrmIT | 0.72 | 7.2 | | 129 | u10 | 9¾ | 10 | +⅛ |
| 9⅛ | 8 | Municipal x | 0.65 | 7.3 | | 142 | 9 | 8⅞ | 8⅞ | |
| 11 | 9¼ | Munienhanc x | 0.71 | 6.9 | | 167 | 10½ | 10⅜ | 10⅜ | -⅛ |
| 45½ | 38⅜ | MrphyO | 1.30 | 3.3 | 19 | 1346 | 40¼ | 39⅜ | 39½ | -¾ |
| 15⅞ | 10⅝ | Myers LE | 0.25 | 1.7 | 13 | 18 | 14⅞ | 14¾ | 14⅞ | +⅛ |
| 24 | 16½ | Mylan Labs | 0.16 | 0.6 | 18 | 2925 | 20⅜ | 19⅝ | 19¾ | -½ |

### - N -

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 66⅞ | 54½ | NCH Corp | 1.20 | 2.1 | 13 | 52 | 57¼ | 56⅜ | 56⅞ | -⅝ |
| 64 | 46⅞ | Nacco | 0.72 | 1.2 | 8 | 142 | 59⅝ | 58⅝ | 58¾ | -¼ |
| 38⅝ | 32¼ | NalcoCh | 1.00 | 3.0 | 24 | 1719 | 34 | d32½ | 33⅛ | -¾ |
| 21 | 14¾ | Nashua | 0.72 | 4.8 | 20 | 118 | 15¼ | d14½ | 14⅞ | -⅜ |
| 68⅞ | 44⅝ | NatnBk | 2.00 | 2.9 | 10 | 9293 | u69¼ | 67⅞ | 69¼ | +1⅛ |
| 41⅛ | 34⅞ | N'wideHlth | 2.85 | 7.1 | 15 | 155 | 40¼ | 40 | 40⅛ | -⅛ |
| 46⅝ | 38½ | Nat Austra | 2.93 | 6.5 | 9 | 14 | 44⅞ | 44⅝ | 44⅞ | +⅛ |
| 31¾ | 25¼ | NtCity | 1.32 | 4.2 | 10 | 3059 | 31½ | 30⅞ | 31⅜ | +⅜ |
| 28 | 15¼ | NtData | 0.30 | 1.1 | 32 | 496 | 28⅜ | 25¾ | 28⅜ | +½ |
| 8½ | 2½ | Nat Educn | | | 2 | 369 | 7⅞ | 7¾ | 7¾ | -¼ |
| 30¾ | 25 | Nat Fuel x | 1.62 | 5.7 | 13 | 233 | 28¾ | 28⅝ | 28⅝ | |
| 48 | 39¼ | Nat Presto | 1.95 | 4.4 | 14 | 34 | 44⅝ | 44⅛ | 44⅛ | -⅜ |
| 33⅝ | 16½ | NtSemi | | | 12 | 11804 | 27⅝ | 26⅜ | 26¾ | -⅞ |
| 31¼ | 24⅞ | NtServ x | 1.12 | 3.8 | 15 | 389 | 29½ | 28⅞ | 29½ | +¼ |
| 16¾ | 10⅝ | Nat Stand | | | 16 | 24 | 13½ | 13⅜ | 13⅜ | -¼ |
| 38⅝ | 30⅝ | Natuzzi | 0.08 | 0.2 | 20 | 1059 | 35⅝ | 35 | 35 | -⅜ |
| 17½ | 11⅞ | Navstr | | | 7 | 1042 | 12⅛ | d11⅝ | 11⅞ | -¼ |
| 55¼ | 50⅞ | Navistar O | 6.00 | 11.3 | | 62 | 53½ | 53 | 53¼ | -1¼ |
| 39¼ | 27⅜ | NBD Bn | 1.32 | 3.4 | 10 | 3335 | 38⅞ | 38¼ | 38⅞ | +½ |
| 18⅝ | 13 | Neiman Mar | 0.20 | 1.1 | 18 | 263 | u18¾ | 18⅛ | 18¼ | -¼ |
| 42 | 19¼ | Network Eq | | | 24 | 738 | 40¾ | 38⅞ | 39⅞ | -⅝ |
| 22½ | 19⅛ | Nevada Pwr | 1.60 | 7.1 | 14 | 559 | u22¾ | 22⅜ | 22⅝ | +⅛ |
| 5⅛ | 3⅞ | New Am Hi | 0.48 | 10.1 | | 233 | 4¾ | 4⅝ | 4¾ | +⅛ |
| 22⅜ | 16¾ | NEngBus | 0.80 | 3.8 | 18 | 553 | 20⅞ | 20½ | 20⅞ | +⅛ |
| 37¼ | 29⅝ | NEngEl | 2.36 | 6.3 | 13 | 1057 | d37⅜ | 37⅛ | 37¼ | +⅝ |
| 13⅝ | 11¼ | New G'many | 0.32 | 2.6 | | 454 | 12½ | 12⅜ | 12⅜ | |
| 25⅞ | 21½ | New Jsy Rs | 1.52 | 6.1 | 13 | 122 | 25⅛ | 24¾ | 24¾ | -⅜ |
| 22¾ | 18⅝ | New Plan R | 1.38 | 6.3 | 18 | 319 | 22⅛ | 22 | 22 | -¼ |
| 26¾ | 19 | NYSEG | 1.40 | 5.3 | 10 | 1180 | 26⅜ | 26¼ | 26⅜ | +⅛ |
| 26⅜ | 20¼ | Newell | 0.48 | 1.9 | 18 | 1711 | 25 | 24¾ | 25 | |
| 14⅞ | 12⅛ | Newhall | 0.40 | 3.0 | 21 | 79 | 13¼ | 13⅛ | 13⅛ | |
| 44⅛ | 31⅞ | NwmtG | 0.48 | 1.2 | 32 | 386 | 40½ | 39½ | 39¾ | -½ |
| 46¼ | 33⅛ | NwmtM | 0.48 | 1.2 | 36 | 3199 | 42⅛ | 41⅛ | 41⅝ | -¼ |
| 24⅞ | 14⅜ | News Corp | 0.08 | 0.3 | 11 | 6315 | 22 | 21¾ | 21⅞ | -⅛ |
| 43 | 36⅛ | NiagM3.6 | 3.60 | 9.4 | | 3 | 38½ | 38⅜ | 38⅜ | +⅜ |
| 15⅝ | 11⅝ | NiagM | 1.12 | 8.7 | 17 | 2181 | 13¼ | 12⅞ | 12⅞ | -⅜ |
| 116¼ | 68¾ | NikeB | 1.00 | 0.9 | 18 | 4064 | 116 | 113¾ | 115 | -1⅝ |
| 35¾ | 29¾ | Nipsco Ind | 1.56 | 4.5 | 13 | 414 | 34⅞ | 34⅝ | 34¾ | |
| 17½ | 11¾ | NL Ind | 0.20 | 1.2 | 25 | 185 | 16⅛ | 15⅞ | 16 | +⅛ |
| 29⅛ | 21¼ | NobleAf | 0.16 | 0.6 | 235 | 1845 | 27 | 25⅞ | 25⅞ | -1 |
| 8⅛ | 5⅛ | NoramE | 0.28 | 3.4 | 24 | 3054 | u8⅛ | 7¾ | 8⅛ | +¼ |
| 40⅛ | 29½ | NrnsEPf | 3.00 | 7.7 | | 8 | 39 | 38¾ | 39 | +⅛ |
| 7⅛ | 2⅛ | Nord Res | | | 1 | 67 | 2⅜ | 2⅜ | 2⅜ | |
| 77⅜ | 60½ | NorfkS | 2.08 | 2.8 | 14 | 1675 | 75⅜ | 74½ | 75 | -⅛ |
| 48⅜ | 35 | Norsk Hydr | 0.58 | 1.4 | 15 | 180 | 42½ | 42 | 42 | -⅜ |
| 11⅞ | 7⅞ | Nortek Inc | 0.10 | 1.2 | 6 | 53 | 8⅝ | 8⅜ | 8½ | -¼ |
| 21¼ | 13½ | Nth Fork | 0.60 | 2.8 | 13 | 135 | u21⅜ | 21 | 21⅛ | |
| 24½ | 21 | NE Utl | 1.76 | 7.2 | 11 | 1905 | u24½ | 24⅛ | 24⅜ | +⅛ |
| 47⅜ | 42½ | NStPw | 2.70 | 5.8 | 12 | 373 | 46½ | 45⅞ | 46¼ | +½ |
| 41 | 32¼ | NTele | 0.44 | 1.3 | 21 | 4017 | 35⅛ | 34¼ | 35⅛ | +¼ |
| 1¼ | ⅝ | Northgate | | | 7 | 38 | 1 | 15/16 | 15/16 | -1/16 |
| 62⅝ | 39¾ | NrtOrp | 1.60 | 2.7 | 58 | 2338 | 60¼ | 59⅞ | 60⅛ | -⅝ |
| 28⅜ | 24¼ | Nrthw Pub | 1.70 | 6.7 | 12 | 307 | 25½ | 25¼ | 25½ | -⅛ |
| 32⅞ | 22⅝ | Norwest | 0.96 | 3.0 | 12 | 3363 | 32⅛ | 31⅞ | 32⅛ | +¼ |
| 9⅝ | 7⅝ | Nova | 0.32 | 4.1 | 5 | 685 | 8 | 7¾ | 7¾ | -⅛ |
| 9⅞ | 7¼ | Novacare | | | 7 | 756 | 7⅜ | d7⅛ | 7¼ | |
| 30¾ | 22¼ | NovoNB | 0.18 | 0.6 | 16 | 30 | 30⅝ | 30⅛ | 30½ | -¼ |
| 15¾ | 13¼ | Nu Ca Mun | 1.03 | 6.7 | | 143 | 15⅜ | 15¼ | 15⅜ | |
| 63¼ | 42½ | Nucor Corp x | 0.28 | 0.6 | 13 | 4033 | 44½ | 44 | 44⅜ | -⅛ |
| 17½ | 14¼ | NUI Corp | 0.90 | 5.4 | 26 | 40 | 16¾ | 16⅝ | 16⅝ | -⅛ |
| 15¾ | 13 | Nuv Cal | 1.03 | 6.8 | | 175 | 15⅛ | 15 | [illegible] | -⅛ |
| 12⅛ | 10⅜ | Nuveen C I | 0.71 | 6.5 | | 187 | 10⅞ | 10¾ | [illegible] | |
| 12½ | 10¾ | Nuveen M I | 0.76 | 6.8 | | 205 | 11⅛ | 11⅛ | [illegible] | |
| 15½ | 13¼ | Nuveen M O | 1.08 | 7.1 | | 778 | 15¼ | 15⅛ | 15¼ | -⅛ |
| 11¼ | 9⅞ | Nuveen N M | 0.67 | 6.4 | | 171 | 10½ | 10¼ | [illegible] | +⅛ |
| 16⅞ | 14⅜ | Nuveen N P | 1.13 | 6.7 | | 102 | u17 | 16⅞ | [illegible] | +⅛ |
| 15⅜ | 13 | Nuveen P P | 1.08 | 7.1 | | 120 | 15¼ | 15⅛ | [illegible] | -⅛ |
| 15¼ | 13 | Nuveen P I | 1.02 | 7.1 | | 1044 | 14⅜ | 14¼ | [illegible] | |
| 18⅞ | 15⅜ | Nymagic x | 0.40 | 2.3 | 11 | 4 | 17⅛ | 17⅛ | [illegible] | -⅛ |
| 48¾ | 35⅞ | Nynex | 2.36 | 5.0 | 20 | 5215 | 47⅜ | 46⅞ | [illegible] | -⅛ |

### - O -

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 14¾ | 6¾ | O H M Crp | | | 15 | 142 | 9 | [illegible] | [illegible] | [illegible] |
| 32 | 22⅜ | Oak Inds | | | 11 | 726 | 30 | 29¾ | [illegible] | [illegible] |
| 36¾ | 21⅝ | Oakwood Hm | 0.06 | 0.2 | 19 | 187 | 35 | 34½ | [illegible] | [illegible] |
| 24⅜ | 18 | OccidP | 1.00 | 4.7 | 22 | 13677 | 21⅞ | 21⅝ | [illegible] | [illegible] |
| 32⅛ | 21 | OfficeDepot | | | 37 | 3311 | 29¾ | 29⅛ | [illegible] | [illegible] |
| 24½ | 18⅜ | Ogden | 1.25 | 5.2 | 18 | 678 | 23⅞ | 23⅝ | [illegible] | [illegible] |
| 22⅞ | 18½ | OhioEd | 1.50 | 6.6 | 11 | 1255 | u22⅞ | 22½ | [illegible] | [illegible] |
| 56 | 47½ | OhioE\$4.4 | 4.40 | 8.1 | | 1 | 54½ | 53½ | [illegible] | [illegible] |
| 56½ | 49 | OhioE4.56 | 4.56 | 8.3 | | z100 | 55 | 55 | [illegible] | [illegible] |
| 92 | 75½ | OhioE7.24 | 7.24 | 7.9 | | z10 | u92 | 92 | [illegible] | [illegible] |
| 96 | 78 | OhioE7.36 | 7.36 | 7.7 | | 14 | u96 | 94⅞ | [illegible] | [illegible] |
| 38½ | 32⅝ | Oklah G&E | 2.66 | 7.0 | 13 | 439 | 38⅛ | 37½ | [illegible] | [illegible] |
| 72¾ | 48⅜ | OlinCp | 2.40 | 3.5 | 13 | 1120 | 68⅝ | 67⅝ | [illegible] | [illegible] |
| 39½ | 28¼ | Olsten | 0.32 | 0.8 | 21 | 1076 | u39¾ | 39⅛ | [illegible] | [illegible] |
| 39 | 20½ | Omnicare | 0.10 | 0.3 | 54 | 2756 | 38 | 37 | [illegible] | [illegible] |
| 66⅝ | 49⅞ | Omnicom x | 1.40 | 2.1 | 19 | 354 | 66 | 65½ | [illegible] | [illegible] |
| 16¾ | 12⅞ | Oneida Ltd | 0.48 | 2.9 | 10 | 57 | 16½ | 16¼ | [illegible] | [illegible] |
| 23⅞ | 17⅛ | Oneok | 1.12 | 4.8 | 15 | 247 | 23½ | 23⅛ | [illegible] | [illegible] |
| 27⅛ | 19¼ | Oppenh Cap | 2.20 | 8.5 | 12 | 86 | 26⅜ | 26 | 26 | [illegible] |
| 10 | 9¼ | Oppenh M S | 0.94 | 9.7 | | 158 | 9⅝ | 9½ | 9⅝ | [illegible] |
| 7⅝ | 6½ | Oppenh Mul | 0.62 | 8.9 | | 279 | 7⅛ | [illegible] | [illegible] | [illegible] |
| 7⅞ | 5⅜ | Orange Co | | | 9 | 136 | 7⅝ | 7½ | [illegible] | [illegible] |
| 35⅞ | 30⅞ | Orange Rck | 2.58 | 7.2 | 13 | 119 | u36 | 35¾ | 35⅞ | [illegible] |
| 19¾ | 14⅞ | Oregon Stl | 0.56 | 3.5 | 25 | 150 | 16⅛ | 16 | 16 | |
| 45¼ | 34¼ | Orion Cap x | 0.92 | 2.1 | 9 | 175 | 44⅝ | 44⅛ | 44⅝ | [illegible] |
| 14¾ | 9⅞ | OrydEn | 0.40 | 3.1 | 8 | 1018 | 13¼ | 12⅞ | [illegible] | [illegible] |
| 22⅞ | 18 | OutbdM | 0.40 | 1.8 | 8 | 408 | 22 | 21¾ | [illegible] | [illegible] |
| 23⅞ | 18½ | Ov'sSh | 0.60 | 3.1 | 43 | 314 | 19¾ | 19 | 19⅛ | [illegible] |
| 14⅞ | 11⅝ | OwensM | 0.18 | 1.4 | 40 | 213 | 12¾ | 12⅝ | 12⅝ | |
| 47⅛ | 30¼ | OwensC | | | 10 | 835 | 44⅝ | 44 | 44⅝ | -¼ |
| 22 | 17¼ | Oxford Ind | 0.80 | 4.6 | 25 | 107 | 17½ | 17⅛ | 17½ | |

### - P - Q -

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 48 | 34⅛ | PHH | 1.36 | 3.0 | 10 | 182 | 45 | 44½ | [illegible] | -⅜ |
| 47 | 34⅞ | PPG In | 1.20 | 2.6 | 12 | 2605 | 45⅞ | 45⅜ | [illegible] | -⅜ |
| 12 | 8½ | PS Group | 0.60 | 5.8 | 11 | 329 | 10⅞ | 10 | 10¼ | |
| 15 | 13¼ | Pac Am Inc | 1.20 | 8.1 | | 39 | 14¾ | 14⅝ | 14¾ | |
| 26½ | 14⅛ | Pac Scien | 0.12 | 0.5 | 23 | 768 | 23¼ | 22½ | 22¾ | -⅛ |
| 19⅞ | 17½ | Pcifcp | 1.08 | 5.6 | 12 | 2386 | 19⅜ | 19⅛ | 19⅜ | -⅛ |
| 26⅜ | 21 | PacEnt | 1.36 | 5.4 | 12 | 603 | 25⅜ | 25 | 25¼ | |
| 30 | 24¼ | PacGE | 1.96 | 6.6 | 10 | 5304 | 29⅞ | 29½ | 29¾ | -⅛ |
| 31¼ | 20¼ | PTelsis | 2.18 | 7.1 | 11 | 8792 | 30⅞ | 30⅝ | 30⅞ | -⅛ |
| 20⅞ | 14⅜ | PaineW | 0.48 | 2.4 | 34 | 1103 | 19⅞ | 19⅜ | 19⅝ | -⅛ |
| 24 | 18⅜ | Pall | 0.42 | 1.9 | 21 | 1836 | 22⅜ | 21⅞ | 22⅛ | -⅛ |
| 27⅝ | 18¾ | PanhdE | 0.90 | 3.2 | 15 | 1126 | u27⅞ | 27½ | 27¾ | -⅛ |
| 34⅛ | 14 | Park Elekt | 0.32 | 1.0 | 17 | 343 | 33¼ | 32¼ | 32¾ | -⅛ |
| 6⅞ | 4⅜ | ParkDr | | | 12 | 2167 | 6 | 5⅞ | 5⅞ | -⅛ |
| 41½ | 27½ | ParkHn | 0.72 | 2.0 | 12 | 733 | 37⅛ | 36⅝ | 36¾ | -⅛ |
| 5¾ | 2¾ | Patten Crp | | | 14 | 298 | 4⅞ | 4½ | 4½ | -⅛ |
| 29¾ | 24¼ | PecoEn | 1.62 | 5.6 | 14 | 3224 | 29 | 28¾ | 29 | |
| 60½ | 50¼ | PennPL4.5 | 4.50 | 7.6 | | 5 | 59 | 59 | 59 | |
| 50 | 39⅞ | Penney | 1.92 | 3.9 | 12 | 3761 | 49½ | 49½ | 49½ | -⅛ |
| 34⅝ | 27¼ | PennEnt | 2.20 | 6.4 | 27 | 62 | 34⅜ | 34¼ | 34⅜ | |
| 50⅞ | 42⅞ | PnzOil | 3.00 | 6.8 | 6 | 562 | 44⅜ | 44 | 44 | |
| 28⅞ | 24¼ | PeopEn x | 1.80 | 6.5 | 16 | 212 | 27⅝ | 27⅜ | 27⅝ | |
| 34¾ | 24⅜ | Pep BoysM | 0.19 | 0.7 | 20 | 1121 | 27⅝ | 27 | 27⅛ | -⅜ |
| 52 | 33⅞ | Pepsico | 0.80 | 1.5 | 22 | 17198 | u52⅛ | 51⅛ | 52 | +1 |
| 38 | 25¾ | PknElm | 0.68 | 2.0 | 22 | 1131 | 35⅜ | 34½ | 34⅝ | -⅝ |
| 13½ | 10¼ | Perkins Fm x | 1.30 | 10.6 | 11 | 101 | 12⅜ | 12¼ | 12¼ | |
| 4⅜ | 3⅜ | Permian Ba x | 0.24 | 6.7 | 12 | 29 | 3⅝ | 3⅝ | 3⅝ | |
| 29⅞ | 24⅞ | PetRes | 0.80 | 2.9 | 41 | 52 | 28 | 27⅞ | 28 | |
| 22⅞ | 3¼ | Petrie | 0.20 | 6.2 | 108 | 244 | 3⅜ | d3⅛ | 3¼ | |
| 54¼ | 37¼ | Pfizer | 1.04 | 1.9 | 24 | 11938 | u55⅞ | 53⅝ | 55⅛ | -2⅛ |
| 70½ | 51⅞ | PhelpD | 1.80 | 2.9 | 8 | 7089 | 62⅝ | 61⅜ | 61⅞ | -⅜ |
| 18⅜ | 17⅜ | PhilSubbn | 1.16 | 6.4 | 12 | 61 | 18⅛ | 18 | 18 | -⅛ |
| 84⅛ | 55⅞ | PhMorr | 4.00 | 4.8 | 13 | 15633 | 83¼ | 82⅝ | 83⅛ | -⅛ |
| 53⅜ | 29¾ | PhilipsEl | 0.91 | 1.9 | 12 | 1863 | 47¾ | 47¼ | 47½ | -¼ |
| 37⅜ | 30 | PhilPt | 1.22 | 3.9 | 16 | 12984 | 31⅝ | 31 | 31¼ | -⅛ |
| 18 | 11 | PhilVH | 0.15 | 1.3 | 10 | 638 | 11⅛ | d11 | 11⅛ | +⅛ |
| 21¾ | 18¼ | PiedmontNG x | 1.10 | 5.4 | 14 | 114 | 20⅜ | 20¼ | 20⅜ | -⅛ |
| 10⅝ | 7¾ | Pier 1 Imp | 0.12 | 1.2 | 25 | 544 | 10⅜ | 10⅛ | 10¼ | |
| 12⅞ | 9¼ | Pilgrim RB | 0.37 | 3.0 | | 152 | 12½ | 12⅜ | 12½ | -⅛ |
| 9⅞ | 7½ | Pilgrims P | 0.06 | 0.7 | 119 | 34 | 8⅜ | 8 | 8⅜ | -⅛ |
| 21¼ | 16⅞ | Pimco Adv | 1.88 | 9.3 | 16 | 87 | 20⅛ | 19⅞ | 20⅛ | -⅛ |
| 26½ | 19⅝ | PinWCp | 0.90 | 3.4 | 11 | 1419 | u26⅝ | 26⅜ | 26⅝ | -¼ |
| 29½ | 22⅜ | Pion 2.125 x | 2.12 | 7.4 | | 5 | 28⅞ | 28⅞ | 28⅞ | -¼ |
| 15⅞ | 8¾ | Pioneer Fn x | 0.18 | 1.2 | 5 | 98 | 14⅝ | 14½ | 14⅝ | -⅛ |
| 13¾ | 11⅝ | Pionin | 1.08 | 8.5 | | 59 | 12⅞ | 12¾ | 12¾ | -⅛ |
| 43⅜ | 30 | PitnyB | 1.20 | 2.9 | 16 | 1601 | 42⅛ | 40⅞ | 41⅛ | -1⅛ |
| 29½ | 22½ | Pittstn | 0.20 | 0.7 | 12 | 2945 | 27½ | 27⅛ | 27⅜ | -¼ |
| 29½ | 18⅜ | Placer Dom | 0.30 | 1.2 | 104 | 10815 | 26 | 25 | 25⅛ | -⅝ |
| 10⅝ | 7⅜ | Playboy B | | | 275 | 50 | 8¼ | 8⅛ | 8¼ | |
| 26⅝ | 19⅞ | Plum Creek | 1.98 | 8.1 | 10 | 138 | 24⅜ | 24⅛ | 24¼ | |
| 21¾ | 14½ | PlyGem | 0.12 | 0.6 | 18 | 616 | 19¼ | 18¾ | 19⅛ | +¼ |
| 28⅝ | 21⅛ | PNC Bk | 1.40 | 5.0 | 13 | 14182 | 28⅛ | 27⅞ | [illegible] | +¼ |
| 25⅝ | 16 | Pogo Prod | 0.12 | 0.5 | 43 | 817 | 23½ | 23 | [illegible] | +⅛ |
| 45⅛ | 29 | Polrd | 0.60 | 1.5 | 57 | 1750 | 39⅞ | 39⅜ | 39½ | -⅜ |
| 54¼ | 37¼ | PlcyMn | | | 128 | 192 | 50⅝ | 50 | 50 | -¾ |
| 86 | 45⅞ | PolyGram | 0.46 | 0.7 | 25 | 291 | 64¾ | 64½ | 64¾ | -¼ |
| 17⅞ | 15⅛ | Pope & Tal | 0.76 | 4.9 | 36 | 135 | 15⅝ | 15½ | 15½ | |
| 14 | 10⅞ | Portec Inc | | | 7 | 8 | 11½ | 11½ | 11½ | |
| 14¼ | 10⅞ | Portugal F | 0.05 | 0.4 | | 140 | 12¼ | 12 | 12⅛ | -½ |
| 68½ | 32⅞ | Potash Sas | 1.44 | 2.4 | 17 | 3882 | 61⅛ | 59½ | 60⅜ | -⅝ |
| 44⅛ | 37⅛ | Ptltch | 1.66 | 4.1 | 14 | 1085 | 41 | 40⅜ | 40⅞ | +⅛ |
| 24⅝ | 18⅜ | PotEP | 1.66 | 6.8 | 40 | 1845 | 24⅜ | 24⅛ | 24⅜ | +¼ |
| 23½ | 17⅞ | PP&L | 1.67 | 7.1 | 17 | 1953 | u23½ | 23¼ | 23⅜ | +⅛ |
| 29 | 19¾ | Prxair | 0.32 | 1.3 | 14 | 4060 | 26⅛ | 25 | 25⅛ | -1 |
| 36½ | 19⅝ | Precision | 0.24 | 0.7 | 23 | 497 | 36¼ | 36 | 36¼ | +⅛ |
| 54¾ | 38½ | Premark | 1.08 | 2.2 | 13 | 3190 | 50¼ | 49⅛ | 50 | -⅛ |
| 26⅛ | 21⅝ | Premier x | 0.44 | 1.7 | 19 | 784 | 25⅜ | 25¼ | 25⅜ | +⅜ |
| 26¼ | 12⅜ | Prirork | | | 33 | 141 | 24⅝ | 24½ | 24½ | -¼ |
| 11/16 | 13/32 | PrimeMoLP | 2.06 | 443.7 | 0 | 5 | 15/32 | 15/32 | 15/32 | |
| 78½ | 60⅝ | ProctG | 1.60 | 2.0 | 21 | 7442 | 78¼ | 77⅜ | 78¼ | +1 |
| 48 | 34⅜ | Prgrsv Oh | 0.22 | 0.5 | 13 | 810 | 44¾ | 43⅝ | 44¾ | +¼ |
| 8⅞ | 6¼ | Proler Int | 0.26 | 3.6 | 40 | 34 | 7¼ | 7¼ | 7¼ | |
| 25 | 20⅜ | PromusHtl | | | 14 | 50 | 23⅛ | 22⅝ | 22⅞ | |
| 3⅞ | 3¼ | Prosp St x | 0.42 | 10.8 | | 253 | u3⅞ | 3¾ | 3⅞ | +⅛ |
| 30¼ | 21.30 | ProtLf | 0.62 | 2.0 | 11 | 261 | u31¼ | 30⅛ | 30⅞ | +⅝ |
| 27½ | 20½ | PrvLf8 | 0.72 | 2.7 | 11 | 288 | 27⅛ | 26¾ | 26¾ | -⅜ |
| 41⅞ | 30⅞ | Prvdn | 0.90 | 2.2 | 13 | 873 | u41⅞ | 41¼ | 41¾ | +¼ |
| 3/32 | 0.02 | Prud RltyC | 0.16 | 204.8 | 0 | 384 | 0.08 | 1/16 | 0.08 | +1/32 |
| 58 | 46 | PbServ4.08 | 4.08 | 7.2 | | z50 | u57 | 57 | 57 | +1 |
| 101 | 86 | PbServ7.40 | 7.40 | 7.4 | | z30 | 100 | 100 | 100 | |
| 94⅜ | 81 | PbServCol | 7.15 | 7.6 | | z100 | 94 | 94 | 94 | +½ |
| 30¼ | 26 | PbSvEG | 2.16 | 7.3 | 11 | 3537 | 29¾ | 29⅝ | 29¾ | -⅛ |
| 16⅝ | 12⅛ | PbSNewMex | | | 9 | 1114 | u16¾ | 16⅜ | 16½ | -⅛ |
| 2⅜ | 1⅝ | Publicker | | | 24 | 4 | 1¾ | 1¾ | 1¾ | |
| 23½ | 20⅛ | PugetS | 1.84 | 7.7 | 13 | 899 | u24 | 23½ | 23¾ | +¼ |
| 53 | 30¾ | PulitP | 0.54 | 1.0 | 17 | 34 | 52¼ | 52 | 52 | -¼ |
| 30½ | 20⅛ | Pulte | 0.24 | 0.8 | 17 | 776 | 29½ | 28½ | 28⅝ | |
| 9¾ | 8⅝ | PutnmDivin | 0.72 | 7.5 | | 119 | 9⅝ | 9½ | 9⅝ | +⅛ |
| 10⅛ | 8½ | PutnmHighY | 0.69 | 7.4 | | 68 | 9½ | 9⅜ | 9⅜ | -⅛ |
| 8 | 7 | PutnmIntGv | 0.60 | 7.9 | | 227 | 7¾ | 7⅝ | 7⅝ | |
| 13¼ | 11⅞ | PutnmInvGr | 0.96 | 7.5 | | 122 | 12⅞ | 12¾ | 12⅞ | |
| 10⅝ | 9½ | Putnam Mn | 0.78 | 7.4 | | 122 | 10⅜ | 10¼ | 10¼ | -⅛ |
| 7½ | 6¾ | PutnmMasin | 0.62 | 8.5 | | 105 | u7½ | 7⅜ | 7⅜ | |
| 8¼ | 7⅜ | PutnmMst | 0.69 | 8.4 | | 436 | u8¼ | 8⅛ | 8¼ | +⅛ |
| 7¾ | 6⅞ | PutnmPrem | 0.66 | 8.7 | | 293 | 7⅝ | 7½ | 7⅝ | +⅛ |
| 37½ | 30⅜ | QuakrO | 1.14 | 3.5 | 5 | 2687 | 33 | 32⅝ | 33 | +⅜ |
| 16½ | 13⅝ | Quaker St | 0.40 | 2.7 | 54 | 470 | 14⅝ | 14½ | 14⅝ | +⅛ |
| 26⅝ | 20¾ | Quanex | 0.60 | 2.9 | 10 | 123 | 21⅛ | d20¾ | 20¾ | -⅜ |
| 33⅛ | 22⅝ | QuestVal D | 1.20 | 3.7 | 24 | 184 | 32¾ | 32¼ | 32¼ | -½ |
| 12½ | 12 | QuestVal P | 1.20 | 9.8 | | 135 | 12¼ | 12⅛ | 12¼ | +⅛ |
| 33 | 26¼ | Questar | 1.16 | 3.7 | 28 | 3972 | 31⅞ | 31½ | 31¾ | +⅛ |
| 46⅛ | 18¼ | Quick Rlly | 0.28 | 0.6 | 14 | 935 | 45⅞ | 45¾ | 45⅞ | +⅛ |

### - R -

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 23⅝ | 16¼ | RLI Corp | 0.52 | 2.4 | 9 | 26 | 22¼ | 22 | 22⅛ | -¼ |
| 12 | 9⅝ | ROCTaiwan | 0.15 | 1.4 | | 599 | 10⅝ | 10½ | 10⅝ | +⅛ |
| 5⅛ | 4⅛ | RPS Realty | 0.32 | 7.1 | 7 | 81 | 4½ | 4⅜ | 4½ | +⅛ |
| 25¼ | 21⅜ | Ralcorp | | | 16 | 277 | 24¾ | 24 | 24 | -½ |
| 59 | 43½ | RlstnP | 1.20 | 2.1 | 38 | 1399 | 58¼ | 57½ | 58⅛ | +½ |
| 47 | 32½ | Raychm | 0.32 | 0.7 | 82 | 1106 | 45⅜ | 45⅛ | 45¼ | +⅛ |
| 22⅝ | 13¾ | RayJames F | 0.36 | 1.7 | 10 | 216 | 21⅞ | 21½ | 21⅝ | -⅛ |
| 40⅝ | 28⅛ | Rayonier | 1.00 | 2.6 | 13 | 717 | 38¼ | 37⅛ | 38⅛ | +⅛ |
| 85½ | 62⅞ | Raythn | 1.50 | 1.8 | 14 | 1617 | 85⅜ | 84⅝ | [illegible] | +⅛ |
| 49¼ | 38¼ | ReadersD A | 1.60 | 3.4 | 20 | 1064 | 47⅝ | 47⅜ | [illegible] | +⅛ |
| 13⅛ | 5½ | ReadBates | | | 57 | 1034 | 12⅛ | 12 | 12⅛ | +⅛ |
| 17⅜ | 14⅜ | RealEstIT | 1.42 | 8.5 | 14 | 21 | 16⅞ | 16⅝ | 16⅝ | -⅛ |
| 12⅝ | 6½ | RecognitEq | | | 96 | 308 | 12 | 11½ | 11⅝ | -⅛ |
| 39⅝ | 31⅛ | Reebok | 0.30 | 0.9 | 12 | 1559 | 34 | 33¾ | 33¾ | -⅜ |
| 8⅛ | 4⅞ | Reliance | 0.32 | 4.1 | 11 | 2025 | 7⅞ | 7½ | 7⅞ | +⅛ |
| 41½ | 33 | Relnstr | 1.00 | 2.5 | 10 | 125 | 40⅝ | 40 | 40⅛ | -½ |
| 34¼ | 28⅜ | Repsol ADR | 0.83 | 2.6 | 11 | 2982 | 31¾ | 31⅜ | 31½ | -¼ |
| 60½ | 44¾ | Repub N Y | 1.44 | 2.4 | 12 | 2048 | 59½ | 58¾ | 59⅛ | +⅝ |
| 18¾ | 12¼ | RexStr | | | 12 | 72 | 18⅜ | 18¼ | 18¼ | -¼ |
| 10⅞ | 7⅞ | Rexel | | | 17 | 945 | 10 | 10 | 10 | |
| 15½ | 9 | Rexene Cp | | | 2 | 271 | 11½ | 11¼ | 11⅜ | -⅛ |
| 36⅝ | 22⅞ | ReynRA | 0.40 | 1.2 | 18 | 720 | 34½ | 34 | 34 | -½ |
| 64¾ | 46¼ | ReynMt | 1.20 | 2.1 | 12 | 4137 | 57¼ | 56½ | 57⅛ | +⅜ |
| 45⅞ | 35⅞ | RhoneP Ror | 1.20 | 2.7 | 13 | 2198 | 45⅜ | 44⅛ | 44⅞ | -1 |
| 30⅛ | 22 | RiteAid | 0.68 | 2.4 | 15 | 2243 | 28⅛ | 27⅞ | 28 | -⅛ |
| 33¾ | 25¼ | RJR Nb | 1.50 | 4.6 | 17 | 4051 | 32⅝ | 32⅛ | 32⅜ | +¼ |
| 10⅜ | 3¼ | RMI Tt | | | 9 | 301 | 9¼ | 8½ | 8⅝ | -⅜ |
| 35⅞ | 19⅝ | Robert Hal | | | 29 | 445 | 34⅛ | 33½ | 33½ | -½ |
| 24⅛ | 20 | RochGE | 1.80 | 7.5 | 13 | 31424 | 24 | 23⅝ | 23⅞ | -⅛ |
| 8⅛ | 4⅛ | RockefCtr | 0.60 | 7.5 | 18 | 4661 | u8⅛ | 7⅞ | 8 | +¼ |
| 48 | 35 | Rckwll | 1.08 | 2.4 | 13 | 2018 | 46¾ | 45½ | 45⅞ | -1⅛ |
| 5 | 2¾ | Rodm&Rens | | | 3 | 28 | 3 | 2⅞ | 3 | +⅛ |
| 62 | 49½ | RohmH | 1.64 | 2.8 | 15 | 1969 | 60⅛ | 59⅝ | 59⅝ | -⅛ |
| 16⅞ | 9¼ | Rohr | | | 32 | 3115 | 15¼ | 15½ | 15½ | -1 |
| 5½ | 4 | RollinsEnv | 0.10 | 2.4 | 26 | 2734 | 4⅜ | 4⅛ | 4⅛ | -⅛ |
| 28⅜ | 22 | Rollins | 0.56 | 2.3 | 17 | 164 | 24¾ | 24⅜ | 24½ | -¼ |
| 14½ | 10⅛ | RollinsTrL | 0.16 | 1.5 | 11 | 2998 | 10⅝ | 10⅜ | 10½ | |
| 8⅝ | 5⅜ | Rowan | | | 17 | 847 | 7⅝ | 7⅜ | 7⅜ | |
| 26⅞ | 25⅜ | RoyBkScot | 2.39 | 9.1 | | 11 | 26⅜ | 26¼ | 26¼ | -¼ |
| 128⅜ | 107¼ | RDutch | 4.41 | 3.6 | 19 | 2903 | 123⅛ | 122¼ | 123⅛ | +⅛ |
| 13¾ | 11⅛ | Royce Val | 0.01 | 0.1 | | 216 | 13⅜ | 13¼ | 13¼ | -⅛ |
| 34¼ | 25¼ | Rbrmd | 0.50 | 1.9 | 21 | 3012 | 27⅞ | 26⅞ | 27 | -⅞ |
| 14 | 9⅞ | Ruddick | 0.24 | 1.8 | 7 | 464 | 13½ | 13¼ | 13¼ | -¼ |
| 15⅞ | 12 | RussBerrie | 0.80 | 4.0 | 27 | 71 | 15¼ | 15⅛ | 15⅛ | -¼ |
| 31¼ | 24⅞ | RussCp | 0.48 | 1.9 | 12 | 340 | 25 | d24⅜ | 25 | +⅛ |
| 26⅛ | 21 | RyderS | 0.60 | 2.4 | 13 | 1194 | 25⅝ | 25¼ | 25⅜ | |
| 17½ | 13⅛ | Ryland Grp | 0.60 | 3.8 | 29 | 156 | 15⅝ | 15½ | 15⅝ | -⅛ |

### - S -

| 1995 High | Low | Stock | Div | Yld. % | P/ E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 17¾ | 13¼ | S Anita Rt | 0.80 | 5.9 | 136 | 76 | 13⅝ | 13½ | 13⅝ | |
| 15⅝ | 7½ | SCOR US Cp | 0.20 | 1.3 | 19 | 30 | 15½ | 15½ | 15½ | |
| 41 | 25⅜ | SPS Te | 1.28 | 3.3 | 20 | 48 | 39 | 38⅞ | 39 | |
| 10½ | 8⅝ | Sabine Rlt | 1.11 | 12.2 | 7 | 37 | 9⅛ | 9 | 9⅛ | |
| 51⅜ | 11¼ | Safeg'd Sc | | | 44 | 306 | 47¾ | 45⅞ | 46¼ | +⅛ |
| 18⅛ | 12⅞ | SftyKl | 0.36 | 2.5 | 15 | 1688 | 14¼ | 14 | 14¼ | -1½ |
| 42¾ | 30⅝ | Safeway | | | 16 | 832 | 42 | 41⅝ | 41¾ | +¼ |
| 11 | 7½ | SafewayW96 | | | | 2 | 10⅝ | 10⅝ | 10⅝ | +¼ |
| 68 | 53¼ | StJoePaper | 0.20 | 0.3 | 25 | 61 | 62⅝ | 61¾ | 61⅞ | |
| 33⅞ | 27⅛ | StJosL&P | 1.84 | 6.1 | 13 | 35 | 30⅞ | 30⅜ | 30⅜ | -⅞ |
| 58⅞ | 43½ | StPaul x | 1.60 | 2.7 | 11 | 1975 | u59⅜ | 58¼ | 59¼ | -⅜ |
| 6⅞ | 2¾ | Salant Crp | | | 23 | 686 | 5¾ | 5¼ | [illegible] | +1 |
| 56⅞ | 32⅞ | Sallie Mae | 1.48 | 2.8 | 11 | 6612 | 56¾ | 55½ | [illegible] | +⅛ |
| 13⅜ | 10⅝ | Salomon Br | 0.38 | 2.8 | 27 | 213 | 13¼ | 13 | 13 | +⅜ |
| 43¼ | 32⅛ | Salomn | 0.64 | 1.7 | 9 | 1510 | 38¼ | 37¾ | 38 | -¼ |
| 23¼ | 19⅛ | SnDgGE | 1.56 | 6.7 | 12 | 754 | u23¼ | 23 | 23⅛ | -⅛ |
| 10⅝ | 8 | SantaFeEn | 0.16 | 1.7 | 72 | 987 | 9½ | 9¼ | 9⅜ | +⅛ |
| 14 | 9 | SFeGd | 0.05 | 0.4 | 30 | 4725 | 12⅝ | 12 | 12⅛ | -⅛ |

Continued on next page

BE OUR GUEST.

Sheraton Brussels Airport HOTEL

When you stay with us in BRUSSELS stay in touch - with your complimentary copy of the

FT FINANCIAL TIMES

هكذا من الأصل

4 pm close October 3

# NYSE COMPOSITE PRICES

Continued from previous page

| 1995 High | Low | Stock | Div. | Yld. % | P/E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 24⅝ | 18¼ | Stone Con | 0.60 | 3.2 | 7 | 5604 | 18⅞ | 18¼ | 18½ | -⅜ |
| 28½ | 22¼ | Stop Shop | | | 14 | 2464 | 23½ | 23⅛ | 23½ | +⅜ |
| 18¾ | 13½ | StrEqu | 0.98 | 4.8 | 17 | 334 | 18⅝ | 18⅜ | 18½ | -⅛ |
| 30¼ | 17⅞ | StrTch | | | 28 | 5667 | 24¾ | 23⅝ | 23⅞ | -½ |
| [illegible] | 23 | Stratus | | | 14 | 890 | 28⅜ | 28⅛ | 28⅜ | +⅛ |
| [illegible] | 9⅝ | StrideRite | 0.38 | 3.4 | 48 | 1118 | 11½ | 11⅛ | 11¼ | -⅜ |
| 35⅜ | 27 | Sturm Rger | 1.40 | 5.0 | 12 | 1783 | 30 | d27 | 28 | -2¼ |
| 11½ | 10¼ | Sun Dis A x | 1.10 | 10.0 | 11 | 46 | 11 | 10⅞ | 11 | +⅛ |
| 4⅞ | 3⅞ | Sun Dis B x | 0.24 | 5.2 | 4 | 38 | 4¾ | 4⅝ | 4⅝ | |
| 4⅞ | 2⅞ | Sun Energy | 0.64 | 15.1 | 16 | 128 | 4⅜ | 4¼ | 4¼ | +⅛ |
| 63 | 36 | Sunamr | 0.60 | 1.0 | 15 | 808 | u63 | 62⅛ | 62⅝ | +⅜ |
| 69⅞ | 44½ | Sndstr | 1.20 | 1.9 | 30 | 677 | 64¼ | 63⅞ | 64¼ | +⅛ |
| 9 | 6⅝ | SunshnePl | 1.19 | 14.9 | | 30 | 8 | 8 | 8 | |
| 2⅜ | 1½ | SunshM | | | | 2165 | 1⅞ | 1¾ | 1¾ | |
| 67¾ | 47¼ | Suntst | 1.44 | 2.2 | 14 | 1026 | 66⅛ | 65¾ | 66⅛ | +⅜ |
| 14¾ | 10¼ | Super Food | 0.38 | 3.0 | 15 | 60 | 12¾ | 12⅝ | 12¾ | +¼ |
| 35¼ | 23⅞ | Superior | 0.20 | 0.8 | 12 | 1790 | 26⅜ | 25½ | 26 | -⅝ |
| 31⅛ | 22½ | Supval | 0.98 | 3.3 | 50 | 2449 | 29¾ | 29⅜ | 29½ | -⅛ |
| 24⅞ | 17⅞ | Surg Care | 0.20 | 0.9 | 25 | 172 | 22⅞ | 22⅝ | 22¾ | -⅛ |
| 23⅝ | 17⅜ | Swiss Helv | 0.02 | 0.1 | | 83 | 20¾ | 20⅝ | 20¾ | |
| 40⅝ | 24⅜ | Symbol Tec | | | 21 | 4066 | 34¾ | 33 | 33⅜ | |
| 9½ | 6⅝ | Syms Corp | 0.20 | 2.2 | 17 | 46 | 9¼ | 9⅛ | 9⅛ | -⅜ |
| 27¼ | 17¾ | Synovus Fn | 0.54 | 2.1 | 19 | 182 | 26¼ | 25⅞ | 26¼ | +⅛ |
| 31⅜ | 24⅞ | Sysco | 0.44 | 1.6 | 19 | 2532 | 27⅛ | 26¾ | 27 | -⅛ |

## - T -

| 1995 High | Low | Stock | Div. | Yld. % | P/E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 6½ | 4⅛ | TCBY Enter x | 0.20 | 4.4 | 50 | 511 | 4⅝ | 4⅜ | 4½ | -⅛ |
| 59¾ | 37⅛ | TCF Financ | 1.25 | 2.1 | 18 | 64 | 58⅝ | 58½ | 58⅝ | -¼ |
| 9 | 7⅝ | TCW Conv S x | 0.84 | 9.7 | | 869 | 8¾ | 8⅝ | 8⅝ | |
| 52¼ | 39 | TDK Corp A x | 0.45 | 0.9 | 44 | 43 | 51⅝ | 50⅞ | 50⅞ | -⅝ |
| 2½ | 1⅜ | T I S Mtge | 0.08 | 4.0 | 11 | 30 | 2 | 2 | 2 | |
| 16⅛ | 11⅛ | TJX | 0.56 | 4.7 | 16 | 3784 | 11⅞ | 11½ | 11⅞ | +¼ |
| 17⅞ | 14⅝ | TNP Enterp | 0.80 | 4.5 | 17 | 170 | u17⅞ | 17⅜ | 17⅞ | +¼ |

| 1995 High | Low | Stock | Div. | Yld. % | P/E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 49 | 43½ | UnEl 3.50 | 3.50 | 7.4 | | z100 | 47½ | 47½ | 47½ | |
| 63 | 54⅞ | UnEl 4.50 | 4.50 | 7.3 | | z90 | 61¾ | 61¾ | 61¾ | |
| 38¾ | 34⅝ | UnElec | 2.44 | 6.4 | 13 | 1647 | u38¼ | 37⅞ | 38¼ | +⅝ |
| 69½ | 45⅝ | UnPac | 1.72 | 2.6 | 17 | 3729 | 66¼ | 65¾ | 66 | |
| 31 | 20½ | UnionPlant | 1.00 | 3.4 | 19 | 760 | 29¾ | 29½ | 29¾ | +⅛ |
| 23⅞ | 18 | UnionTexas | 0.20 | 1.1 | 15 | 7405 | 18¼ | d17½ | 17¾ | -½ |
| 11¾ | 7⅝ | Unisys | | | | 5128 | 7¾ | d7½ | 7⅝ | -⅛ |
| 4¼ | 2½ | Unit Corp | | | 25 | 78 | 3¾ | 3½ | 3¾ | |
| 41½ | 34¼ | UtdAsset x | 1.20 | 3.0 | 19 | 653 | 40⅛ | 39⅞ | 39⅞ | -⅛ |
| 15⅝ | 13 | UtdDomRty | 0.90 | 6.3 | 36 | 1892 | 14¼ | 14⅛ | 14¼ | -⅛ |
| 25⅛ | 17⅞ | UtdDomInd | 0.20 | 0.8 | 13 | 49 | 24½ | 24¼ | 24½ | +⅛ |
| 50⅛ | 34⅞ | UtdHlthcre | 0.03 | 0.1 | 25 | 8438 | 49⅜ | 48⅞ | 49¼ | -¼ |
| 35¾ | 28⅜ | UtdIllumo | 2.82 | 7.7 | 11 | 964 | u36⅞ | 35⅞ | 36½ | -⅜ |
| 7¼ | 4⅞ | UtdIndust | 0.28 | 4.7 | 13 | 107 | 6 | 5⅞ | 6 | +⅛ |
| 12⅛ | 10½ | UtdKgdmFnd | 0.14 | 1.1 | | 102 | 12⅜ | 12¼ | 12¼ | |
| 22½ | 8⅞ | UParkCity | | | | 3 | 14½ | 14½ | 14¾ | -¼ |
| 13⅞ | 4⅛ | USAir | 0.12 | 1.0 | | 172001 | u14 | 12⅝ | 12⅝ | +1⅛ |
| 19½ | 13⅜ | USF&G | 0.20 | 1.1 | 9 | 3970 | 19¼ | 18⅝ | 19 | -⅛ |
| 24⅛ | 14⅞ | US Filter | | | 38 | 236 | 23½ | 23¼ | 23⅜ | -⅛ |
| 25⅞ | 14⅞ | USHome | | | 8 | 152 | 24⅞ | 24½ | 24⅝ | -⅛ |
| 31½ | 22½ | USLICp | 0.93 | 3.2 | 10 | 381 | 29⅜ | 29 | 29⅛ | -¼ |
| 27¼ | 18¾ | USSurg | 0.08 | 0.3 | 43 | 2897 | 26½ | 25⅝ | 25⅞ | -⅜ |
| 48⅝ | 35¼ | USWest | 2.14 | 4.5 | 15 | 5936 | 47⅝ | 47 | 47¼ | |
| 88⅝ | 62¼ | UtdTec | 2.00 | 2.3 | 15 | 4917 | 88⅜ | 85½ | 85¾ | -1 |
| 14⅛ | 12½ | UtdWater | 0.92 | 7.3 | 14 | 244 | 12¾ | 12⅝ | 12⅝ | +⅛ |
| 32½ | 17⅝ | Unitrode | | | 24 | 82 | 29⅝ | 29¼ | 29¼ | -⅛ |
| 34⅞ | 27¼ | Univ Foods | 0.96 | 2.8 | 12 | 222 | u34⅞ | 34⅝ | 34⅝ | |
| 16⅞ | 15⅜ | Univ Hlth | 1.68 | 10.2 | 11 | 144 | 16⅜ | 16½ | 16½ | |
| 16¼ | 10¼ | Univar Crp | 0.30 | 2.2 | 21 | 17 | 13⅞ | 13½ | 13½ | -⅜ |
| 24 | 16⅞ | Unvsl Crp | 1.00 | 4.5 | 30 | 494 | 22¼ | 21⅞ | 22 | -⅜ |
| 30½ | 25¼ | Unocal | 0.80 | 2.8 | 51 | 4783 | 28⅜ | 28 | 28¼ | -⅛ |
| 54 | 37¾ | UNUM Corp | 1.06 | 2.0 | 26 | 1823 | 52¼ | 50¾ | 52¼ | +½ |
| 45⅝ | 30⅛ | Upjhn | 1.48 | 3.4 | 15 | 9542 | 44 | 43⅜ | 44 | +⅛ |
| 18 | 12⅝ | US Ind | | | | 2611 | 15¾ | 15½ | 15¾ | +⅛ |
| 21⅞ | 10 | USA WstSv | | | 167 | 21031 | 20¼ | 19¾ | 20⅛ | +⅜ |

| 1995 High | Low | Stock | Div. | Yld. % | P/E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| 19⅜ | 12¼ | Woolwth | 0.60 | 3.8 | 56 | 5403 | 15⅞ | 15⅝ | 15¾ | |
| 16½ | 13¼ | World Wide | 0.10 | 0.6 | | 58 | 16 | 15⅞ | 16⅞ | |
| 13⅝ | 7¼ | Worldcorp | | | 5 | 382 | 12¼ | 11⅞ | 12 | -⅛ |
| 30¾ | 26¾ | WPS Rs | 1.86 | 6.1 | 14 | 94 | u30⅞ | 30¼ | 30⅝ | +⅜ |
| 51¼ | 42⅞ | Wrigley | 0.68 | 1.4 | 26 | 1023 | 50 | 49⅝ | 49⅞ | -⅜ |
| 45⅜ | 19⅜ | Wyle Labor | 0.28 | 0.6 | 23 | 328 | 45 | 44¾ | 44¾ | -½ |
| 28¼ | 19½ | Wynns Intl | 0.52 | 1.9 | 11 | 86 | 27 | 26¾ | 27 | -⅛ |

## - X - Y - Z -

| 1995 High | Low | Stock | Div. | Yld. % | P/E | Sls 100s | High | Low | Close Quote | Ch'ge Prev. Close |
|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | 96½ | Xerox | 3.00 | 2.3 | 16 | 3976 | 131⅝ | 129¼ | 129¾ | -2 |
| 52½ | 42¾ | Xtra Corp | 0.64 | 1.5 | 12 | 515 | 44⅛ | 43¾ | 43¾ | -⅜ |
| 22⅞ | 19½ | Yankee Egy | 1.26 | 5.8 | 13 | 70 | 21¾ | 21⅝ | 21⅝ | |
| 48½ | 34⅜ | York Intl | 0.24 | 0.6 | 15 | 4270 | 40⅞ | 40⅛ | 40¾ | +⅛ |
| 4½ | 2½ | Zapata | 0.14 | 3.2 | 9 | 303 | u4½ | 4⅜ | 4⅜ | |
| 12⅛ | 6⅞ | ZenithEl | | | | 6 119 | 8¾ | 8⅝ | 8⅝ | -⅛ |
| 24½ | 13½ | Zenith Nat | 1.00 | 4.1 | 12 | 137 | u24⅝ | 24⅛ | 24⅛ | -¼ |
| 6⅞ | 6⅛ | Zenix Inc x | 0.72 | 10.9 | | 110 | 6¾ | 6⅝ | 6⅝ | |
| 16½ | 12⅝ | Zero | 0.44 | 2.8 | 16 | 125 | 15⅞ | 15⅝ | 15⅞ | -⅛ |
| 26 | 16½ | Zurn Ind | 0.40 | 1.6 | 25 | 770 | 25⅛ | 24⅝ | 25 | -¼ |
| 11½ | 10¼ | Zweig Fund | 1.12 | 10.2 | | 196 | 11 | 10⅞ | 11 | |
| 9 | 7½ | Zweig Tot | 0.84 | 9.7 | | 745 | 8⅝ | 8½ | 8⅝ | |

Price data supplied by Telekurs

Yearly highs and lows for NYSE reflect the period from Jan 1 1995 Unless otherwise noted, rates of dividend are annual disbursements based on the latest declaration. Sales figures are unofficial.

d-new yearly low. PE price-earnings ratio. sls-sales. u-new yearly high. x-ex-dividend or ex-rights. yld-yield. z-sales in full.

# Dealings suspended.

**FT Free Annual Reports Service**

You can obtain the current annual/interim report of any company annotated with ♣. Please quote the code FT3186. Ring 0181 770 0770 (open 24 hours including weekends) or fax 0181 770 3822. If calling from outside the UK, dial +44 181 770 0770 or fax +44 181 770 3822. Reports will be sent on the next working day, subject to availability.

# AMEX COMPOSITE PRICES

4 pm close October 3

| Stock | Div. | P/E | Sls 100s | High | Low | Close | Chng |
|---|---|---|---|---|---|---|---|
| Adv Magn | | 143 | 20 | 25¾ | 25¼ | 25¾ | +¾ |
| Alfin Inc | | 10 | 40 | 1 7/16 | 1 5/16 | 1 5/16 | |
| Alpha Ind | | 39 | 538 | 17 | 16⅛ | 16½ | -⅝ |
| Am Isr Pa | 1.05 | 9 | z100 | 55¼ | 55¼ | 55¼ | +½ |
| AmMaize A | 0.68 | 10 | 20 | 39½ | 39¼ | 39¼ | |
| Amdahl | 0.05 | 11 | 3468 | 9¾ | 9 9/16 | 9¾ | +3/16 |
| AmerExpl | | 2 | 51 | 11⅜ | 11½ | 11⅞ | +⅜ |
| Ampal-AmA | | 23 | 148 | 5¾ | 5⅝ | 5¾ | +⅛ |
| ASR Invs | 2.00 | 6 | 17 | 18⅜ | 18¼ | 18¼ | |
| Astrotech | | 14 | 15 | 3¼ | 3¼ | 3¼ | -⅛ |
| Atari | | 31 | 416 | 3⅜ | 3 | 3⅛ | -⅜ |
| Audiovox A | | 18 | 169 | 5¾ | 5½ | 5½ | -3/16 |
| B&H Ocean | 0.60 | 1 | 2 | 2 1/16 | d2 | 2 | -1/16 |
| BadgerMtr | 0.80 | 12 | 20 | 26¼ | 26¼ | 26¼ | |
| BaldwinT A | 0.04 | 19 | 115 | 6⅛ | 6 | 6 1/16 | -1/16 |
| BATadr | 0.74 | 12 | 36 | 16 13/16 | 16¾ | 16 13/16 | +1/16 |
| [illegible] | 0.40 | 20 | 14 | 24¾ | 24¾ | 24¾ | -⅛ |
| Bio-Rad A | | 14 | 222 | 40⅞ | 39½ | 40 | -⅜ |
| Blount A | 0.57 | 12 | 185 | 46⅜ | 45½ | 45¾ | -¼ |
| CmpTch | | 51 | 43 | 6 3/16 | 6 3/16 | 6 3/16 | |
| Computrac | | 23 | 261 | 2 7/16 | 2¼ | 2⅜ | +⅛ |
| Concd FbA | | 15 | 14 | 4 7/16 | 4 7/16 | 4 7/16 | +1/16 |
| CrossAT A | 0.64 | 24 | 42 | 16⅞ | 16⅝ | 16¾ | -⅛ |

| Stock | Div. | P/E | Sls 100s | High | Low | Close | Chng |
|---|---|---|---|---|---|---|---|
| Crown C A | 0.40 | 4 | 97 | 16 | 15⅞ | 16 | |
| Crown C B | 0.40 | 13 | 65 | 15⅝ | 15⅜ | 15⅝ | +⅛ |
| Cubic | 0.53 | 30 | 36 | 23¾ | 23⅜ | 23⅜ | -⅝ |
| Customedix | | 11 | 8 | 2⅞ | 2⅝ | 2⅞ | +⅛ |
| Di Inds | | 14 | 627 | ⅞ | ⅞ | ⅞ | |
| Dimark | | 21 | 121 | 12⅜ | 12 | 12⅛ | |
| Ducommun | | 17 | 226 | 10 | 9⅝ | 9⅝ | -¼ |
| Duplex | 0.48 | 41 | 108 | 7 7/16 | 7½ | 7½ | -⅛ |
| Eastn Co | 0.46 | 12 | 31 | 12⅞ | 12½ | 12¾ | +½ |
| Echo Bay | 0.07 | 38 | 4668 | 10⅞ | 10⅜ | 10½ | -⅛ |
| Ecol En A | 0.32 | 10 | 344 | 8 7/16 | 8⅛ | 8⅛ | -⅜ |
| Edisto Rs | | 206 | 7 | 6¼ | 6 3/16 | 6 3/16 | |
| Ensco Intl | | 31 | 1250 | 17½ | 17⅜ | 17½ | +⅛ |
| Epitope | | 7 | 2200 | 12½ | 11¾ | 12⅛ | +¼ |
| Fab Inds | 0.70 | 13 | 11 | 31⅛ | 31⅛ | 31⅛ | -⅛ |
| Fina A | 2.40 | 10 | 5 | 48⅝ | 48⅝ | 48⅝ | |
| FstCityBnc | 0.20 | 24 | z100 | 24 | 24 | 24 | |
| Gulf Cda | 0.34 | 5 | 116 | 4 7/16 | 4⅜ | 4 7/16 | +1/16 |
| HanDir | | 62 | 1046 | 1 15/16 | d1¾ | 1⅞ | -1/16 |

| Stock | Div. | P/E | Sls 100s | High | Low | Close | Chng |
|---|---|---|---|---|---|---|---|
| Hasbro | 0.32 | 16 | 1802 | 30⅝ | 30¼ | 30⅜ | -¼ |
| Health Ch | | 54 | 10 | 2 3/16 | 2 3/16 | 2 3/16 | -1/16 |
| Heico | 0.15 | 18 | 20 | 17⅛ | 17⅛ | 17⅛ | +⅛ |
| HvnanianA | | 15 | 143 | 7¼ | 6 15/16 | 6 15/16 | -1/16 |
| InstronCp | 0.16 | 17 | 5 | 12⅞ | 12⅞ | 12⅞ | -⅛ |
| Int. Comp | | 8 | 1249 | 7 7/16 | 7⅜ | 7 7/16 | -1/16 |
| Intermagn | | 47 | 181 | 18⅝ | 18¼ | 18⅜ | -¼ |
| Ivax | 0.08 | 35 | 7553 | 29⅞ | 25⅝ | 29⅛ | |
| Jan Bell | | 1 | 169 | 3⅞ | 3¾ | 3¾ | -1/16 |
| Kinark Cp | | 9 | 80 | 2⅞ | d2¾ | 2⅞ | -1/16 |
| Kirby Exp | | 20 | 6571 | 15⅜ | 14¾ | 14⅞ | -⅜ |
| KogrEq | | 25 | 46 | 9 15/16 | 9¾ | 9⅞ | +1/16 |
| Labarge | | 41 | 174 | 3 7/16 | 3 5/16 | 3¾ | +1/16 |
| Laser Ind | | 14 | 1085 | 11¼ | 10½ | 10⅞ | +½ |
| Lee Pharm | | 3 | 31 | 11/16 | ⅝ | ⅝ | -1/16 |
| Lumex Inc | | 95 | 13 | 11½ | 11⅜ | 11½ | +⅛ |
| Lynch Cp | | 26 | 6 | 80 | 80 | 80 | |
| Nat Patnt | | 8 | 285 | 2 | 1⅞ | 1 15/16 | |
| NY TmA | 0.56 | 11 | 2419 | 27½ | 27¼ | 27½ | +⅛ |
| NumacE | | 19 | 38 | 4¾ | 4¾ | 4¾ | |

| Stock | Div. | P/E | Sls 100s | High | Low | Close | Chng |
|---|---|---|---|---|---|---|---|
| NVR | | 12 | 54 | 9⅝ | 9½ | 9⅝ | |
| Pegasus G | 0.10 | 170 | 511 | 13⅞ | 13⅝ | 13⅝ | +⅛ |
| Pentl | 0.80 | 28 | 47 | 11⅞ | 11¼ | 11¼ | -¼ |
| Pittway A | 0.50 | 32 | 24 | u62¼ | 61⅞ | 62 | +⅛ |
| PLMC x | 1.02 | 9 | 135 | 11⅞ | 11⅝ | 11⅝ | -¼ |
| PresidioA | 0.10 | 0 | 22 | [illegible] | [illegible] | [illegible] | |
| ReganBrad | | 26 | 9 | 33½ | 31½ | 33½ | |
| SJW Corp | 2.16 | 12 | 14 | 37½ | 37¼ | 37½ | |
| SWLite | | 0 | 53 | 7/16 | ⅜ | ⅜ | |
| Tab Prods | 0.20 | 21 | 13 | 5⅞ | 5¾ | 5⅞ | +⅛ |
| TelData | 0.38 | 29 | 430 | 41¾ | 40⅞ | 41¼ | -⅜ |
| Thermedics | | 48 | 1299 | 20 | 19⅞ | 19¾ | -⅜ |
| Thermolas | | 29 | 190 | 28½ | 28¼ | 28⅜ | -⅛ |
| TotPNA | 0.30 | 518 | 395 | 10⅝ | 10¼ | 10⅜ | +⅛ |
| TownCntry | | 5 | 369 | 1 | ⅞ | 15/16 | -1/16 |
| Triton | | 5 | 40 | 2⅞ | 2⅞ | 2⅞ | |
| Tubos Mex | | 3 | 578 | 6⅛ | 5¾ | 6 | +1/16 |
| TurnrBrA | 0.07 | 83 | 277 | 27¼ | 26⅝ | 26⅞ | -¼ |
| WIRET | 1.12 | 22 | 58 | 11¼ | d11¼ | 11¼ | |
| Xytronix | | 3 | 41 | 2½ | 2⅜ | 2⅜ | -3/16 |

Have your FT hand delivered in Belgium.

Gain the edge over your competitors by having the Financial Times delivered to your home or office every working day. Hand delivery services are available for subscribers in the Greater Brussels area, the Greater Antwerp area, Brugge, Gent, Halle, Kortrijk, Leuven, Liège, Mechelen, Nivelles and Wavre.
Please call (02) 548 95 50 for more information.

Financial Times. World Business Newspaper.

# NASDAQ NATIONAL MARKET

4 pm close October 3

| Stock | Div. | P/E | Sls 100s | High | Low | Last | Chng |
|---|---|---|---|---|---|---|---|
| ABS Inds | 0.20 | 13 | 10 | u13½ | 12¾ | 12¾ | -⅞ |
| ACC Corp | 0.12 | 8 | 180 | 17¼ | 16½ | 17⅛ | +⅛ |
| Acclaim E | | 20 | 8358 | 25⅛ | 23⅛ | 23¼ | -1⅝ |
| Acme Mtls | | 7 | 88 | 17¼ | 16¾ | 16¾ | |
| Acxiom Cp | | 47 | 586 | [illegible] | 29 | 29⅛ | -½ |
| Adaptech | | 20 | 13128 | 41½ | 39¾ | 40½ | -1⅛ |
| ADC Tele | | 51 | 12386 | 43¾ | 39½ | 39½ | -3½ |
| Addington | | 50 | 383 | 15¾ | 15 | 15⅛ | +⅛ |
| AdiaADR | 0.16 | 10 | 27 | 22¼ | 22¼ | 22¼ | -⅛ |
| Adobe Sys | 0.20 | 74 | 9855 | 52⅞ | 51¼ | 52¼ | +½ |
| Advance C | | 16 | 84 | u22⅝ | 21⅞ | 22½ | |
| Adv Logic | | 30 | 962 | 8⅝ | 8 | 8½ | +¼ |
| Adv Polym | | 13 | 652 | 6¾ | 6½ | 6 11/16 | +3/16 |
| AdvTchLab | | 24 | 531 | 18¾ | 18¼ | 18¾ | |
| Advanta | 0.27 | 15 | 99 | 45¼ | 44½ | 44½ | |
| AgnicoEa | 0.10 | 41 | z100 | 13⅝ | 13⅝ | 13⅝ | |
| AirExpr | 0.20 | 16 | 570 | 25¼ | 23½ | 24 | -1 |
| Alco ADR | 1.63 | 6 | 467 | 59¼ | 58⅝ | 58¾ | -1 |
| AlexBld | 0.88 | 22 | 613 | 24 | 23¾ | 23¾ | -⅛ |
| Allen Org | 0.52 | 13 | 2 | 45 | 45 | 45 | |
| Allen Ph | | 8 | 1778 | 11⅝ | 11 | 11½ | |
| AlldCapll | 1.16 | 14 | 77 | 16¼ | 15¾ | 16¼ | +¼ |
| Alld Cap | 0.88 | 12 | 65 | 13½ | 13 | 13½ | +½ |
| Aloette C | 0.32 | 0 | 70 | 2⅜ | 2 | 2⅜ | +¼ |
| Alta Gold | 0.06 | 10 | 515 | 1 13/32 | 1 9/32 | 1⅜ | +1/16 |
| Altera Co | | 79 | 17024 | 61⅜ | 57¼ | 59⅞ | -⅛ |
| Am Banker | 0.76 | 12 | 123 | 37¼ | 37 | 37¼ | |
| AmCNoy | 0.16 | 11 | 1481 | 10½ | 9¾ | 10 | -⅛ |
| Am Cty Bu | | 31 | z100 | 27¾ | 27¾ | 27¾ | |
| Am Manag | | 26 | 274 | 27⅜ | 27 | 27 | |
| Am Softwa | 0.32 | 52 | 645 | 7⅝ | 7⅜ | 7⅜ | -¼ |
| Am Frtwys | | 16 | 443 | 15 | 14⅝ | 14⅞ | +⅛ |
| AmGrtA | 0.64 | 14 | 4476 | 30⅛ | 29⅝ | 30⅛ | +3/16 |
| AminoP | | 1 | 1200 | 1 1/16 | 1 | 1 1/32 | -1/32 |
| AmWin | 2.36 | 7 | 24 | 59 | 58¼ | 58½ | -⅛ |

## - R -

| Stock | Div. | P/E | Sls 100s | High | Low | Last | Chng |
|---|---|---|---|---|---|---|---|
| Rainbow | | 16 | 812 | 20⅛ | 18⅝ | 19 | -1 3/32 |
| Rallys | | 1 | 78 | 2⅝ | 2⅜ | 2⅜ | |
| Rasterops | | 3 | 1220 | 7¾ | 7 | 7¼ | -½ |
| Raymond | | 12 | 450 | 21½ | 20⅜ | 21½ | +1½ |
| RCSB Fin | 0.48 | 8 | 862 | 24 1/16 | 23¾ | 23⅞ | -3/16 |
| Read-Rite | | 17 | 12817 | 36¼ | 33⅞ | 35 | -1 |
| Recoton | | 22 | 361 | 26¼ | 25½ | 26¼ | +¾ |
| Repligen | | 0 | 184 | 1 13/16 | 1 9/16 | 1 9/16 | -1/16 |
| Rep Waste | | 58 | 1852 | 22⅝ | 21⅞ | 22⅛ | -¼ |
| Resrchlnd | | 35 | 902 | 29⅞ | 28⅜ | 28⅞ | -¾ |
| Resound | | 19 | 488 | 7⅞ | 7½ | 7½ | -¼ |
| Reuters | 0.86 | 50 | 5838 | 52⅜ | 51⅛ | 51⅜ | -1 |
| Rexon Inc | | 0 | 261 | 11/16 | 17/32 | 17/32 | -3/32 |
| River Fst x | 0.20 | 12 | 24 | 23¼ | 23 | 23¼ | |
| RoadwS | 1.40 | 84 | 1787 | 48¾ | 47½ | 48¼ | -¼ |
| RbNgnt | 0.12 | 13 | 36 | 9⅞ | 9½ | 9½ | -⅜ |
| Roosevelt | 0.56 | 10 | 4977 | 17⅞ | 17⅝ | 17⅞ | +⅛ |
| Ross Str | 0.24 | 10 | 2242 | 15¾ | 15½ | 15½ | |
| RotechMed | | 18 | 1497 | 23½ | d22¾ | 23¼ | +¼ |
| Rouse | 0.80 | 218 | 987 | 21⅞ | 21½ | 21⅞ | +¼ |
| RPM Inc. | 0.56 | 18 | 2215 | 19⅞ | 19½ | 19⅞ | |
| RS Fin | 0.60 | 18 | 4 | u39 | 39 | 39 | +¼ |
| Ryan Fmly | | 13 | 1171 | 7⅞ | 7⅝ | 7⅞ | +⅛ |

## - S -

| Stock | Div. | P/E | Sls 100s | High | Low | Last | Chng |
|---|---|---|---|---|---|---|---|
| Safeco | 2.12 | 12 | 2490 | 65¼ | 64⅛ | 64 13/16 | +3/16 |
| SallckHth | | 29 | 7 | 36½ | 36 | 36½ | +¼ |
| Sanderson | 0.20 | 13 | 91 | 11¾ | 11½ | 11½ | -¼ |
| SchlmbgrA | 0.34 | 16 | 622 | 25½ | 24½ | 25 | -½ |
| SCI Systm | | 22 | 1339 | 34⅛ | 33½ | 33½ | -⅜ |
| Scios | | 4 | 3145 | 3 15/16 | 3¾ | 3 15/16 | +1/16 |
| Scitex Cp | 0.52 | 15 | 1168 | 18⅝ | 17⅞ | 18⅛ | -½ |
| Score Brd | | 2 | 466 | 5¾ | 5¼ | 5¼ | -⅜ |
| Seafield | 1.20 | 168 | 21 | 37⅛ | 36¾ | 37⅛ | -⅛ |
| SEI Cp | 0.20 | 19 | 226 | 20⅛ | 19¾ | 19¾ | -⅛ |
| Selbels B | 0.36 | 2 | 84 | 1 | 15/16 | 15/16 | -.06 |
| Selectins | 1.12 | 11 | 281 | u37⅛ | 36 | 36½ | +½ |
| Sequent | | 16 | 5257 | 19½ | 18⅞ | 19½ | +½ |
| Sequoia | | 21 | 1107 | 7½ | 7 | 7¼ | -⅜ |
| Serv Tech | | 5 | 375 | 8½ | 7⅞ | 7⅞ | -½ |
| Sevenson | 0.22 | 11 | 45 | 18½ | 17½ | 18½ | +1 |
| StrMed x | 0.84 | 26 | 2929 | 41⅝ | 41¼ | 41 9/16 | +5/16 |
| SHL Systm | | 78 | 6257 | 12¾ | 12½ | 12½ | -3/32 |
| Shorewood | | 14 | 551 | 17⅜ | 17¼ | 17¼ | |

AMERICA

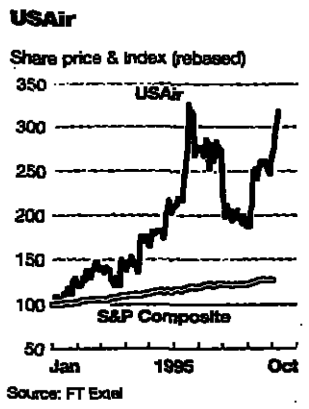
# USAir gains 14% as bid hopes rise

## Wall Street

US share prices sank in early trading as technology and cyclical issues continued to fall and investors worried about third-quarter earnings, *writes Lisa Bransten in New York.*

Several airlines ignored market trends yesterday amid news that both UAL and AMR – the parent companies of United Airlines and American Airlines – were considering the acquisition of their smaller rival USAir. In early trading, USAir jumped 14 per cent or $1⅝ to $13¼, while UAL shed $4⅞ to $167⅞ and AMR lost $1¼ at $69½.

At 1 pm the Dow Jones Industrial Average was off 23.84 at 4,737.42. The Standard & Poor's 500 shed 0.68 to 581.04 and the American Stock Exchange composite dipped 2.34 to 538.26. NYSE volume was 234m shares.



Source: FT Extel

Equities ignored the continued bullish trend on the bond market, where inflation-wary investors reacted positively to another sign that recent economic growth had been moderate at best.

Cyclical shares bore the brunt of the downturn, leading the Dow to underperform the broader S&P 500. Falling cyclicals in the Dow included Aluminum Company of America, down $1¼ at $51⅛, Boeing, $1⅞ at $65⅞, International Paper, $1⅞ at $39¾ and Union Carbide, $1 at $38⅞.

Meanwhile, shares of consumer goods companies – which are thought to perform best during a downturn in the business cycle – posted modest gains yesterday. Coca-Cola was $⅜ stronger at $69⅝, Procter & Gamble added $⅝ at $77⅞ and Merck gained $⅜ at $57⅞.

Technology shares continued the slide begun last week. The technology-rich Nasdaq composite fell as much as 10 points or 1 per cent in early morning trading before regaining its footing in the early afternoon with a decline of 8.27 points at 1,019.30 near 1 pm. The Pacific Stock Exchange technology index lost 1.2 per cent.

Technology shares, however, were mostly higher, with most of the declines coming among smaller companies and semiconductor-related businesses. IBM added $1 at $94⅞, Microsoft gained $1/16 at $88 5/16 and Intel was $⅝ higher at $59¾.

America Online, however, retreated $1⅛ to $64¾, Broderbund Software was $1¼ off at $72½ and Dell Computers was $½ lower at $83½. Among chipmakers, Motorola was $1¾ weaker at $74¾, Micron Technology shed $⅞ to $44⅝, Novellus Systems dropped $2 to $64½ and Lam Research was off $2¾ at $55½.

## Canada

Toronto was mixed in morning trade, with publication of another poll which further allayed fears of Quebec separation providing an early fillip.

However, by noon, the TSE-300 composite index was off 5.26 at 4,489.63 in heavy volume of 36.5m shares.

The SOM-Environics poll showed that 48 per cent of Quebec respondents would vote against separation from Canada in the October 30 referendum.

Banks were beneficiaries. Toronto-Dominion Bank rose C$¾ to C$23⅝ and Bank of Nova Scotia picked up C$⅞ to C$28⅞.

Losers featured Inco, which fell C$1⅞ to C$43⅞, and Alcan Aluminium, C$¾ cheaper at C$41¾.

# Mexico extends fall

Mexico City was worried by the prospect of a rise in interest rates later in the session and by midday the IPC index had lost 22.95 or 1 per cent at 2,269.01. Volume, which had begun modestly, soon improved and stood at 20m shares by noon.

Some traders speculated that the market had further to fall and pointed to a technical support level at 2,200.

Analysts said they expected a rise of at least 200 basis points in the *Cetes*, or T-bills, during the central bank's weekly auction.

**SAO PAULO** was down 1.8 per cent in light midday trading in reaction to losses on the Mexican stock market. The Bovespa index had fallen 814 to 44,566 by 1 pm in low turnover of R$182.2m ($190.1m).

Analysts also attributed the market's drop to a lingering concern over the use of foreign debt bonds in the privatisation programme. On Friday, the central bank announced a measure lifting a 25 per cent discount on foreign debt bonds when used in privatisations.

Telebras was off 2.4 per cent at R$43 by noon and Vale do Rio Doce preferred dropped 2.2 per cent to R$54.50.

# Johannesburg edges lower

South African shares edged lower in uncertain trade, with mixed world markets and a listless bullion price combining to cap prices and volume.

The overall index was 2.1 softer at 5,649.8, industrials slipped 1.7 to 7,096.5 and golds lost 15.2 at 1,488.6.

De Beers ended 50 cents better at R100.25 as it bucked the softer trend after the company reported a partial wage accord with South African workers, averting a possible strike.

Anglos receded 25 cents to R203 and Minorco added 75 cents at R101.75.

Malbak and Barlows each finished 25 cents easier at R24.50 and R41 respectively. Amplats managed a strong R1 improvement to R25 but Kloof dipped 25 cents to R40.25.

EUROPE

# Paris rebounds, Pechiney stages pre-issue slide

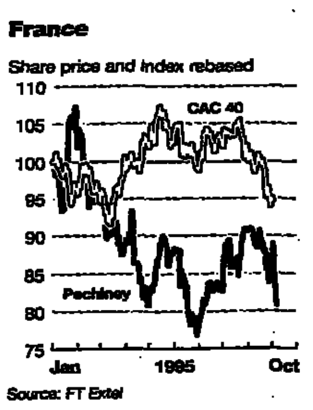
French equities had a better day, *writes Our Markets Staff.* Frankfurt was closed for the Unity day holiday.

**PARIS** featured an 8.7 per cent fall in Pechiney CIs but the slide occurred in extremely low volume and no selling pressure was seen. The stock finished FFr27.80 off at FFr292.20, while the subsidiary Pechiney International rose 90 centimes to FFr118.90. Analysts argued that an easing in the share price was to be expected, rumours abounding that the government was to set an issue price of between FFr280 and FFr310 per share.

The CAC-40 index enjoyed a recovery to the 1,800 level, rising 19.99 to 1,800.70.

Mr Lionel Rayon at Nomura in Paris said that it now looked quite likely that Pechiney would be the next company to be privatised, although a great deal would depend on general market conditions over the next few weeks. The government would want to see some stability in the market before moving ahead with the privatisation programme, he added.

Renault, another leading contender awaiting sale, now looked a less likely prospect. Its share price had been hit hard by the recent sell-off in French stocks, although it closed yesterday up FFr2.50 at FFr143.50.



Source: FT Extel

Mr Rayon also thought that Pechiney's management was likely to want a merger with Pechiney International, the packaging company, in which it already held a stake of 67 per cent, and preferably at the same time as the flotation.

However, this scenario was unlikely to find favour with the French treasury, given that technical volatility in the shares in the weeks following the listing could exert a heavy downward pressure on the price.

On the positive side, Eurotunnel made progress ahead of September traffic figures due later this week and amid rumours of management changes, and the shares appreciated by 7.4 per cent or 55 centimes to FFr8.00. Alcatel-Alsthom continued to recover, rising another FFr20 or 4.5 per cent to FFr442.60.

**MILAN** finished weaker but up from early lows on the recovery of the lira and government bond futures. The Comit index lost 4.20 to 612.36, while the real-time Mibtel index picked up from a low of 9,723 to finish a net 17 weaker at 9,808.

Gemina took further punishment as investors continued to vent their anger at news of the judicial investigation and losses at the investment company, which is at the heart of the merger plan with Ferruzzi. The shares tumbled L31 or 4.2 per cent to a year's low of L715, taking losses over the last week to 18.3 per cent.

"Investors are very angry that this information was not public at the time when the merger was announced," said one Milan trader. The market, he said, had largely overlooked some other very positive six-month results during the last week, concentrating instead on developments at Gemina and the prospect of further political uncertainty during the passage of the 1996 budget. "I had been hoping that the market would remain supported around the 620 level on the Comit index, but now we have to consider that 590 points is a more realistic level."

**MADRID** looked wistfully at Telefónica, which fell another Pta15 to Pta1,640 after a drop of 2.6 per cent on Monday, and a slide of 8.6 per cent since the stock peaked at Pta1,795 in mid-September in the run-up to its international share offer.

The general index, meanwhile, fell 1.91 to 302.48, down 5 per cent since September 14, generally reflecting the weakness of the dollar, and the vulnerability of the ruling Socialist party.

Mr Daniel Molina at ABN-Amro Hoare Govett in Madrid said that Telefónica's underperformance in recent weeks might reflect institutional selling on the judgment that the shares would be available in quantity and cheaper: the institutional tranche of the issue was priced yesterday at Pta1,637.

**ZURICH** took advantage of the firmer dollar to edge further ahead and the SMI index finished 10.0 higher at 3,049.0, unable to sustain an assault on the 3,055 resistance level.

Currency considerations favoured Nestlé, up SFr16 to SFr1,212, while Ciba extended recent gains, rising SFr9 to SFr944. Schindler certificates were SFr60 higher at SFr1,105, although analysts were unimpressed by the company's plans to simplify its share structure, eliminating bearer shares. However, they welcomed the elevator and lift manufacturer's announcement that it would adopt recognised accounting standards for its 1996 results.

**STOCKHOLM** ended off its lows after a sharp fall in bond yields late in the session; but Ericsson B declined SKr4 to SKr164 after weakness in New York overnight, and the Affärsvärlden General index closed 10.0 lower at 1,824.5.

**HELSINKI** finished above its worst but still fell 1.4 per cent, the Hex index ending 30.67 down at 2,140.59 after a low of 2,128.23. Nokia A outdid Ericsson, dropping FM13 to FM285; Huhtamaki, the food and packaging group, lost FM10 at FM134 after lower than expected eight-month earnings, and a downward revision of its profits forecast.

The market outperformed strongly over the first nine months of 1995. But CS First Boston said Finland continued to look among the least expensive markets in Europe with the Hex p/e ratio coming down from 22.5 for 1994, through an estimated 12.9 for the current year, to 9.5 for 1996.

**FT-SE** Actuaries Share Indices

| Oct 3 | | | | | | THE EUROPEAN SERIES | | |
|---|---|---|---|---|---|---|---|---|
| Hourly changes | Open | 11.30 | 12.00 | 12.30 | 13.00 | 14.00 | 15.00 | Close |
| FT-SE Eurotrack 100 | 1414.84 | 1415.04 | 1415.70 | 1418.61 | 1417.56 | 1419.89 | 1420.95 | 1421.48 |
| FT-SE Eurotrack 200 | 1520.52 | 1520.33 | 1521.71 | 1523.41 | 1522.53 | 1524.95 | 1527.22 | 1526.91 |

| | Oct 2 | Sep 29 | Sep 28 | Sep 27 | Sep 26 |
|---|---|---|---|---|---|
| FT-SE Eurotrack 100 | 1423.05 | 1412.87 | 1405.44 | 1413.48 | 1438.80 |
| FT-SE Eurotrack 200 | 1524.47 | 1513.86 | 1502.32 | 1503.56 | 1528.62 |

Base 1000 (29/10/90); High/day: 100 - 1422.30; 200 - 1528.24 Low/day: 100 - 1414.25 200 - 1519.53 † Partial

Written and edited by William Cochrane, Michael Morgan and John Pitt

ASIA PACIFIC

# Nikkei average recovers strongly on technical support

## Tokyo

Speculation about fresh steps to stem the yen's appreciation led to a surge in Nikkei index futures near the close of trading and this, in turn, brought a strong recovery in equities after three successive days of falling prices had taken the 225 average down by more than 500 points, *writes Robert Patton in Tokyo.*

The benchmark index, which lost 173.22 on Monday, ended 403.15 higher at 18,142.99. It stayed above Monday's close for most of the day, moving between a low of 17,737.25 and a high of 18,159.72.

The Topix index of all first section stocks recovered 22.39 to 1,444.46 and winners outpaced losers by 759 to 244, with 173 issues unchanged. Volume was estimated at 240m shares, up from Monday's 195.15m. The capital weighted Nikkei 300 rose 4.67 to 271.12. In London the ISE/Nikkei 50 index gained 1.94 at 1,235.49.

The market was sluggish until late in the day. At that point, the Jiji domestic news service reported that a Finance Ministry official would make a speech at a private economic symposium today. This generated the yen speculation and the December Nikkei futures contract rose above 18,000, triggering a rush of arbitrage buying on the cash side; foreign investors began purchasing shortly before the close. Some analysts viewed the rebound as evidence that the market has strong support between 17,600 and 17,700.

A Finance Ministry spokesman said later that the ministry did not have any plan to announce new measures to stem the rise in the yen.

Steelmakers and shipbuilders gained, largely due to foreign buying. Nippon Steel rose Y10 to Y347, Kawasaki Steel Y6 to Y352 and Kobe Steel Y4 to Y276. In shipbuilders, Mitsui Engineering and Hitachi Zosen climbed Y9 to Y276 and Y16 to Y499 respectively.

News reports that NTT will link up with six major international telecommunications and software companies to provide international business network services attracted strong buying interest that lifted its share price by Y32,000 to Y880,000.

Real estate stocks, which had been Monday's biggest losers, turned around with the sector up 3.8 per cent against Monday's 2.8 per cent decline. Mitsui Fudosan put on Y30 at Y1,180, Heiwa Real Estate Y37 at Y743 and Mitsubishi Estate Y40 at Y743.

In Osaka, the OSE average moved up 167.91 to 19,439.23 in volume of 8.7m shares.

## Roundup

In spite of a late afternoon rally, which helped offset earlier falls, **SYDNEY** remained in negative territory. The All Ordinaries index lost 5.7 at 2,132.0, having hit a session's low of 2,123.3.

Turnover was A$445.2m, while falling issues outnumbered advances by 415 to 299.

In transport, Brambles rose to a new high for the year as investors became increasingly attracted to the company following a good set of results, and an optimistic trading outlook. The shares gained 32 cents or 2 per cent at A$14.90.

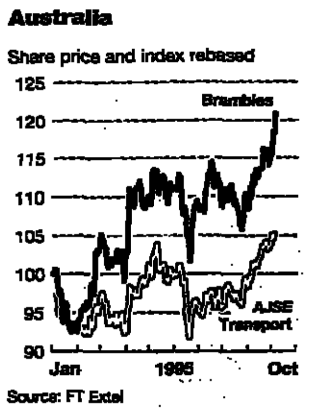
Pacific Dunlop made 3 cents to A$3.32 after announcing increased sales to Japan by its battery division.

**HONG KONG** only ran a half-day session, morning trade being cancelled as Typhoon Sibyl passed nearby. However, it was driven higher by speculative and overseas demand and the Hang Seng index rose 80.48 to 9,805.46. Turnover came to HK$2.1bn, down from Monday's HK$3.3bn.

Dealers said US mutual funds, increasingly, were turning their attention away from the more expensive US and Japanese markets and alighting on the cheaper Hong Kong.

Properties were in demand, pushing the sub-index up 1.1 per cent. Henderson Land, which reported strong results last week, advanced HK$1.10 to HK$48.20 and Sino Land, which announced a rise in net profits through an exceptional item on Monday, firmed 25 cents to HK$5.40.

**WELLINGTON** found encouragement from returning foreign investors, who helped lift the NZSE capital index by 9.16 to 2,116.59 in NZ$39m turnover.



Source: FT Extel

Among second line issues, newspaper group Wilson & Horton moved ahead 39 cents to NZ$8.64 with speculation that the Independent Newspapers group was buying. The Irish company run by Mr Tony O'Reilly already has a 32.9 per cent stake in the New Zealand group.

Ceramco, sold heavily on Monday following a downgrading of its profits forecast late on Friday, recovered 15 cents to NZ$2.10.

**TAIPEI** made a modest loss on late selling. The weighted index shed 9.83 to 5,035.79, off a high of 5,082.76. Turnover totalled T$27.6bn.

Brokers attributed the late selling to caution among many domestic investors ahead of a scheduled military exercise by the Taiwanese authorities which was due to begin tomorrow. There were fears that this could jeopardise further the already strained relations between Taiwan and China.

The shipping sector, nevertheless, rose on hopes that Taiwan could make direct shipping links with China in the near future. Yang Ming Marine added 50 cents at T$31.20.

**MANILA** sank further into negative territory, Petron, the oil refiner, falling during the session to a year's low of 11.50 pesos as investors continued to sell blue chips. The company's stock eventually closed 25 centavos off at 11.75 pesos.

The composite index shed 11.53 to 2,617.68, but was off the day's worst of 2,603.26.

**BANGKOK** was lifted by bargain hunting in the finance and banking sectors. The SET index ended at the day's high of 1,296.32, up 6.36. Trade was light, with 36.4m shares worth Bt2.75bn changing hands.

**SINGAPORE** was weak on light liquidation in index-linked stocks. The Straits Times Industrial index finished 9.79 down at 2,110.40 and the UOB-OTC index, mainly for Malaysian issues, slipped 10.92 to 1,082.24.

Trading activity continued to be dominated by retail investors chasing smaller speculative issues. United Paper & Pulp picked up 10.5 cents to S$1.02 in active trade on talk of a takeover.

**KUALA LUMPUR** extended its losses as volume came near to its lowest levels of this year; the composite index broke immediate technical support at 980, closing 6.88 lower at 977.24.

Aokam led activity, the stock receding 8 cents to M$4.80 on expectations of weak full-year earnings. Promet dropped 31 cents to M$2.79 in further response to confirmation of a shareholding change.

## FT/S&P ACTUARIES WORLD INDICES

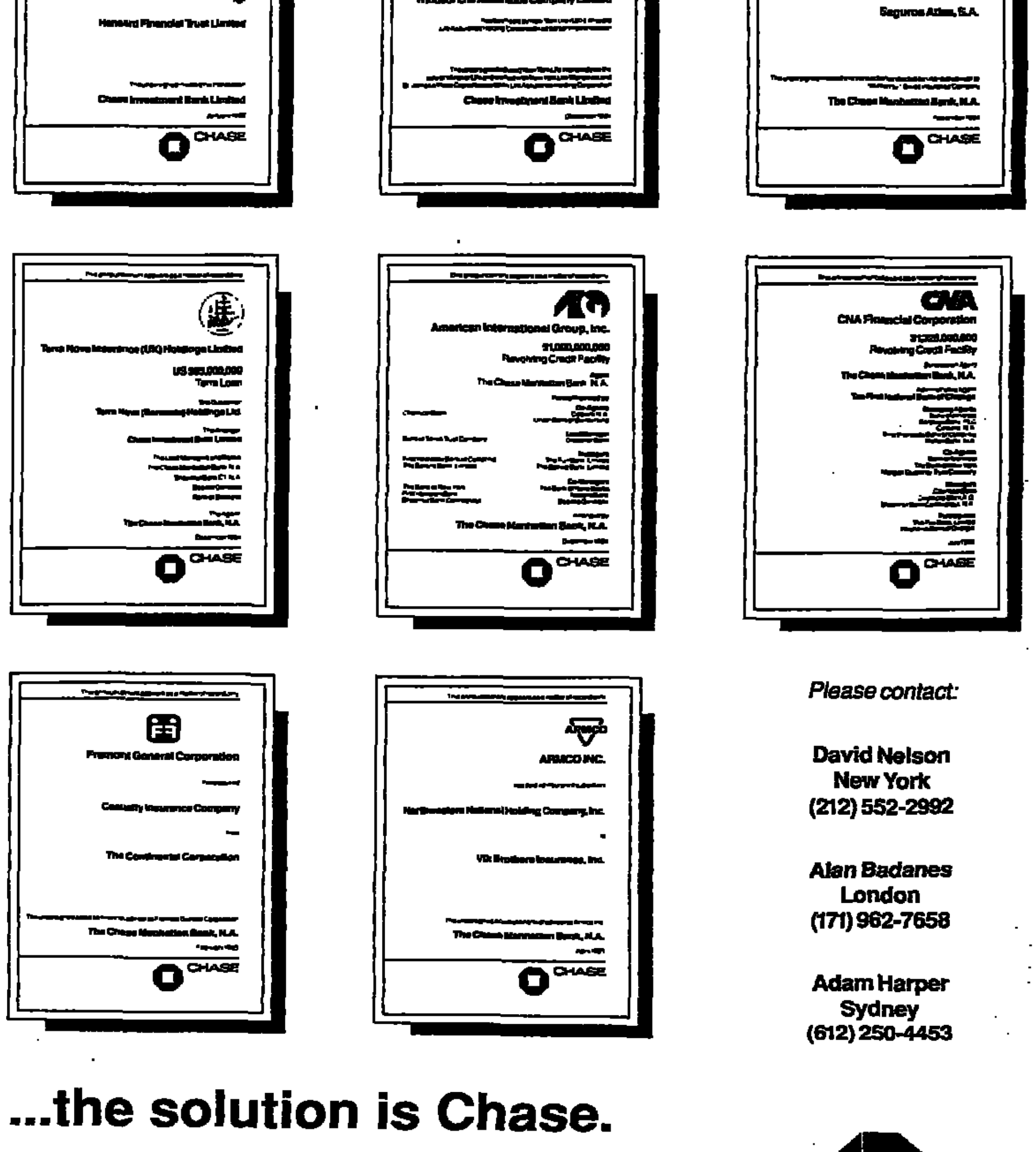
The FT/S&P Actuaries World Indices are owned by The Financial Times Ltd., Goldman, Sachs & Co. and Standard & Poor's. The indices are compiled by The Financial Times and Goldman Sachs in conjunction with the Institute of Actuaries and the Faculty of Actuaries. NatWest Securities Ltd. was a co-founder of the indices.

| NATIONAL AND REGIONAL MARKETS | MONDAY OCTOBER 2 1995 | | | | | | | | FRIDAY SEPTEMBER 29 1995 | | | | | DOLLAR INDEX | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Figures in parentheses show number of lines of stock | US Dollar Index | Day's Change % | Pound Sterling Index | Yen Index | DM Index | Local Currency Index | Local % chg on day | Gross Div. Yield | US Dollar Index | Pound Sterling Index | Yen Index | DM Index | Local Currency Index | 52 week High | 52 week Low | Year ago (approx) |
| Australia (82) | 188.06 | 1.2 | 175.68 | 119.57 | 139.80 | 163.98 | 0.1 | 3.96 | 185.82 | 174.06 | 115.88 | 137.48 | 163.75 | 191.01 | 157.95 | 170.53 |
| Austria (26) | 179.15 | −0.8 | 167.35 | 113.90 | 133.17 | 133.12 | −0.3 | 1.34 | 180.67 | 169.23 | 112.66 | 133.66 | 133.57 | 199.28 | 167.48 | 184.32 |
| Belgium (35) | 194.48 | −0.6 | 181.68 | 123.65 | 144.57 | 141.05 | 0.0 | 3.70 | 195.61 | 183.23 | 121.98 | 144.71 | 141.01 | 201.12 | 161.66 | 164.66 |
| Brazil (28) | 149.32 | −2.1 | 139.49 | 94.94 | 111.01 | 261.97 | −2.1 | 1.61 | 152.53 | 142.87 | 95.11 | 112.64 | 267.59 | - | - | - |
| Canada (101) | 143.97 | −0.4 | 134.49 | 91.54 | 107.03 | 139.58 | −1.0 | 2.66 | 144.53 | 135.38 | 90.13 | 106.93 | 140.96 | 150.83 | 121.81 | 138.31 |
| Denmark (33) | 280.94 | −0.5 | 262.45 | 178.62 | 208.85 | 211.76 | −0.1 | 1.53 | 282.30 | 264.43 | 176.04 | 208.84 | 212.04 | 295.99 | 236.61 | 250.82 |
| Finland (25) | 263.08 | −1.1 | 245.77 | 167.27 | 195.57 | 236.72 | −0.4 | 1.35 | 265.87 | 249.03 | 165.79 | 196.69 | 237.71 | 278.11 | 171.13 | 179.31 |
| France (100) | 171.81 | −0.6 | 160.50 | 109.24 | 127.72 | 132.84 | −0.2 | 3.30 | 172.85 | 161.91 | 107.79 | 127.88 | 133.14 | 191.17 | 157.79 | 165.41 |
| Germany (59) | 159.89 | 0.3 | 149.36 | 101.66 | 118.86 | 118.86 | 0.8 | 2.01 | 159.47 | 149.38 | 99.44 | 117.97 | 117.97 | 167.74 | 134.99 | 137.96 |
| Hong Kong (55) | 377.82 | 0.6 | 352.96 | 240.22 | 280.87 | 375.05 | 0.7 | 3.85 | 375.42 | 351.65 | 234.10 | 277.74 | 372.64 | 392.18 | 277.40 | 392.18 |
| Ireland (16) | 248.47 | −0.4 | 232.12 | 157.98 | 184.72 | 216.26 | −0.4 | 3.50 | 249.46 | 233.67 | 155.56 | 184.55 | 217.19 | 249.46 | 195.34 | 204.84 |
| Italy (58) | 75.52 | −0.9 | 70.55 | 48.02 | 56.14 | 90.84 | −1.0 | 1.67 | 76.25 | 71.42 | 47.55 | 56.41 | 91.76 | 83.88 | 65.45 | 83.88 |
| Japan (483) | 143.19 | −3.1 | 133.76 | 91.04 | 106.45 | 91.04 | −1.2 | 0.84 | 147.76 | 138.41 | 92.14 | 109.32 | 92.14 | 164.82 | 136.95 | 159.56 |
| Malaysia (108) | 484.99 | −2.2 | 453.08 | 308.37 | 360.55 | 471.32 | −1.7 | 1.73 | 495.99 | 464.59 | 309.29 | 366.94 | 479.56 | 567.20 | 398.16 | 559.57 |
| Mexico (18) | 1052.45 | −3.6 | 983.17 | 669.16 | 782.37 | 7341.42 | −3.4 | 1.89 | 1092.12 | 1022.98 | 681.02 | 807.94 | 7600.21 | 2302.03 | 647.81 | 2262.50 |
| Netherland (19) | 257.44 | −0.8 | 240.50 | 163.69 | 191.38 | 188.14 | −0.2 | 3.47 | 259.42 | 243.00 | 161.77 | 191.92 | 188.60 | 263.99 | 205.92 | 209.51 |
| New Zealand (14) | 78.51 | −0.4 | 73.34 | 49.92 | 58.36 | 63.26 | −0.5 | 4.53 | 78.83 | 73.84 | 49.16 | 58.32 | 63.57 | 85.49 | 69.56 | 72.21 |
| Norway (33) | 236.21 | −0.3 | 220.66 | 150.19 | 175.60 | 201.12 | 0.0 | 2.10 | 236.88 | 221.88 | 147.71 | 175.24 | 201.14 | 243.79 | 192.92 | 195.50 |
| Singapore (44) | 369.29 | −0.6 | 344.98 | 234.80 | 274.53 | 243.61 | 0.2 | 1.69 | 371.40 | 347.89 | 231.60 | 274.77 | 243.21 | 414.26 | 313.94 | 377.97 |
| South Africa (45) | 350.45 | −0.3 | 327.38 | 222.82 | 260.52 | 280.29 | −0.1 | 4.16 | 351.67 | 329.41 | 219.30 | 260.17 | 280.66 | 363.22 | 261.06 | 311.63 |
| Spain (38) | 150.28 | −0.5 | 140.39 | 95.55 | 111.72 | 140.23 | −0.5 | 3.98 | 151.01 | 141.45 | 94.17 | 111.72 | 140.93 | 160.51 | 124.10 | 138.81 |
| Sweden (48) | 318.24 | −0.7 | 297.29 | 202.34 | 236.58 | 326.95 | −0.5 | 1.63 | 320.43 | 300.15 | 199.82 | 237.06 | 328.60 | 320.43 | 219.88 | 221.78 |
| Switzerland (41) | 216.42 | 0.6 | 202.18 | 137.60 | 160.88 | 154.31 | 0.7 | 1.72 | 215.21 | 201.58 | 134.20 | 159.21 | 153.30 | 216.42 | 158.38 | 161.66 |
| Thailand (46) | 162.06 | −0.6 | 151.39 | 103.04 | 120.48 | 158.06 | −0.4 | 2.58 | 163.06 | 152.73 | 101.67 | 120.62 | 158.71 | - | - | - |
| United Kingdom (207) | 226.07 | 0.6 | 211.19 | 143.74 | 168.06 | 211.19 | 0.3 | 4.04 | 224.72 | 210.49 | 140.13 | 166.25 | 210.49 | 227.07 | 187.07 | 194.11 |
| USA (504) | 238.16 | −0.4 | 222.49 | 151.43 | 177.05 | 238.16 | −0.4 | 2.47 | 239.12 | 223.98 | 149.11 | 176.90 | 239.12 | 239.87 | 182.33 | 188.93 |
| Americas (651) | 217.64 | −0.5 | 203.32 | 138.38 | 161.79 | 182.52 | −0.5 | 2.46 | 218.62 | 204.78 | 136.33 | 161.74 | 183.38 | - | - | - |
| Europe (739) | 195.20 | 0.0 | 182.35 | 124.11 | 145.11 | 164.40 | 0.1 | 3.07 | 195.12 | 182.77 | 121.67 | 144.35 | 164.17 | 199.02 | 163.04 | 168.22 |
| Nordic (139) | 293.03 | −0.7 | 273.74 | 186.31 | 217.84 | 254.37 | −0.4 | 1.73 | 295.02 | 276.34 | 183.97 | 218.26 | 255.34 | 295.02 | 213.93 | 216.68 |
| Pacific Basin (832) | 154.25 | −2.5 | 144.09 | 98.07 | 114.67 | 101.69 | −1.0 | 1.28 | 158.25 | 148.23 | 98.68 | 117.08 | 102.71 | 173.52 | 145.93 | 169.30 |
| Euro-Pacific (1571) | 171.21 | −1.3 | 159.94 | 108.86 | 127.28 | 125.36 | −0.5 | 2.13 | 173.51 | 162.53 | 108.20 | 128.36 | 125.94 | 178.33 | 154.73 | 168.72 |
| North America (605) | 232.34 | −0.4 | 217.04 | 147.72 | 172.72 | 231.58 | −0.4 | 2.47 | 233.27 | 218.50 | 145.46 | 172.57 | 232.55 | 233.93 | 178.86 | 185.78 |
| Europe Ex. UK (532) | 174.43 | −0.3 | 162.95 | 110.91 | 129.67 | 138.63 | 0.0 | 2.51 | 174.93 | 163.85 | 109.08 | 129.41 | 138.59 | 179.46 | 146.45 | 150.64 |
| Pacific Ex. Japan (349) | 258.35 | 0.0 | 241.35 | 164.26 | 192.06 | 225.89 | −0.1 | 3.24 | 258.26 | 241.91 | 161.05 | 191.08 | 226.10 | 266.72 | 211.19 | 263.36 |
| World Ex. US (1763) | 172.23 | −1.3 | 160.89 | 109.50 | 128.03 | 128.87 | −0.5 | 2.16 | 174.50 | 163.45 | 108.81 | 129.09 | 129.51 | 178.73 | 155.42 | 170.71 |
| World Ex. UK (2060) | 189.17 | −1.1 | 176.72 | 120.28 | 140.63 | 155.49 | −0.6 | 2.10 | 191.32 | 179.21 | 119.30 | 141.54 | 156.35 | 191.32 | 163.46 | 173.94 |
| World Ex. Japan (1784) | 219.88 | −0.2 | 205.41 | 139.80 | 163.48 | 204.76 | −0.2 | 2.78 | 220.40 | 206.44 | 137.43 | 163.05 | 205.20 | 220.96 | 179.95 | 186.35 |
| The World Index (2267) | 192.39 | −0.9 | 179.73 | 122.33 | 143.02 | 160.37 | −0.5 | 2.29 | 194.25 | 181.95 | 121.13 | 143.70 | 161.11 | 194.25 | 165.92 | 175.73 |

Copyright, The Financial Times Limited, Goldman, Sachs and Co. and Standard & Poor's. 1995. All rights reserved. "FT/S&P Actuaries" is a joint trademark of The Financial Times Limited and Standard & Poor's.

Latest prices were unavailable for this edition

When the need is for a bank that understands insurance...


Lincoln National (UK) plc
Liberty Life
Liberty Life Assurance Company Limited
Hansard Financial Trust Limited
Chase Investment Bank Limited
CHASE

Life Assurance Holding Corporation Limited
New York Life Worldwide Holding, Inc.
Windsor Life Assurance Company Limited
Chase Investment Bank Limited
CHASE

"Winterthur" Swiss Insurance Company
Republic Financial Services, Inc.
Seguros Atlas, S.A.
The Chase Manhattan Bank, N.A.
CHASE

Terra Nova Insurance (UK) Holdings Limited
Terra Loan
Chase Investment Bank Limited
The Chase Manhattan Bank, N.A.
CHASE

American International Group, Inc.
Revolving Credit Facility
The Chase Manhattan Bank, N.A.
CHASE

CNA
CNA Financial Corporation
Revolving Credit Facility
The Chase Manhattan Bank, N.A.
CHASE

Fremont General Corporation
Casualty Insurance Company
The Continental Corporation
The Chase Manhattan Bank, N.A.
CHASE

ARMCO INC.
Northwestern National Holding Company, Inc.
Vik Brothers Insurance, Inc.
The Chase Manhattan Bank, N.A.
CHASE

*Please contact:*

David Nelson
New York
(212) 552-2992

Alan Badanes
London
(171) 962-7658

Adam Harper
Sydney
(612) 250-4453

...the solution is Chase.

CHASE

Issued and approved by The Chase Manhattan Bank, N.A., regulated by the SFA. The products featured above are not available to private customers in the UK.

هكذا من الأصل